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I

THE FUTURE OF THE NORMAL SCHOOL

Many years ago I set myself to the work of studying the methods of schools for the training of teachers, having noticed the superiority of their graduates over those without professional education, both in furnishing skilled teachers and in inspiring them with a professional zeal that causes them to improve for many years after entering the work of teaching. I have tried to set down in this paper the grounds for commending the normal school as it exists for its chosen work of preparing teachers for the elementary schools, and at the same time urging the need of training schools with different methods of preparation for the kindergarten, below, and for the secondary school, the college, and the post-graduate school, above the elementary school.

In our time a new epoch is beginning in the study of educational methods. There is a widespread movement known as " child-study," which devotes itself to learning the natural history of infancy, childhood, and youth. It will discover the laws of development. It will learn how to take the child out of a lower form of intellectual activity into a higher form; how to prevent that mischievous arrest of development which is produced at present by too much thoroness in mechanical methods. It will know the pathology of education as it has never been known before.

Besides " child-study " there is progress in the invention of devices of instruction. These relate to the discovery of ways and means whereby the child is made more self-active in

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the process of learning and not so dependent on the teacher's powers of illustration.

In this direction an entire new field, that of Froebel's kindergarten, has been occupied and brought under inspection. The educative effect of the child's first playthings has been to some extent measured. The lullaby of the nurse, the first sight of the moon and stars, the meaning of imitation, the relation of what is symbolic to what is conventional; how the child becomes original and outgrows the merely imitative stage of mind; how to preserve his interest from step to step in a graded system of instruction—these are kindergarten problems that furnish much that is of consequence for the study of method in normal schools. But the most important advances in the study of educational methods, those which warrant us in speaking of a new era in the training of teachers as being on its advent, have resulted from the movement of colleges and universities to establish professorships in education. The university professor, taking up the work of preparation of teachers, has been obliged to plan for himself a different line of work from that of the State normal schools and the city training schools. He has to deal with students advanced beyond elementary and secondary studies into those of the higher education, and he must plan a suitable curriculum for a class of students not easily interested in the traditional normal-school course. This difference has gradually become apparent to both classes of teachers. It has become evident that the method of instruction, and the organization of the work of training teachers, should vary according to the grade of education. There is one method for higher education and another for elementary. Within each of these there should be a further discrimination of methods, so that five stages of method should be noted.

First, that of the kindergarten, which is adapted to what I call the symbolic stage of the mind, needs a method more like that used by the mother of the family than that of the traditional primary school. In the symbolic stage of intellect the child lets one thing stand for another thing and does not

think fully in the logical terms of universal, particular, and singular. He does not understand things in their process of derivation. His intellect is an activity of noting resemblances and symbolizing one thing by another; and his will-power is chiefly a process of imitation—an attempt to body forth by his own effort some event that he sees in the world; for imitation is the symbolism of action, while pure symbolism is the imitative process of the intellect. Both are crude preliminary stages in the entire process of mastering the world by learning all the necessary steps to the true actuality.

Now since play unites these two child-activities, symbolism and imitation, it is evident that the method of first education with the child, say from two to six years, must have reference to the play-activity, and the first school which the child may enter should be a school having the general characteristics of the kindergarten.

The method of the primary school and the grammar school, the two divisions of the elementary school proper, is founded on the habit of mind that follows the symbolic. For after the symbolic stage of mind comes the conventional stage wherein the child struggles for the mastery of the signs adopted by civilization for the purposes of collecting and preserving the lessons of experience. These signs are, for example, the written and the printed alphabets, the notations of arithmetic, the technical terms used in geography, grammar, and history, and such other technical vocabularies as enter the elements of natural science and sociology. The child has also a practical technique to learn in the elements of drawing, penmanship, and the limited fields of experiment that must go with the mastery of the word-and-idea technique.

We can see at a glance how different the method of instruction in the elementary school must be from that of the kindergarten. In the latter, precision is not attempted in the technical sense, for that would involve an abuse of the intellect and of the will, at the tender age of three to six years. Its work of imitation is a loose sort of production which omits the greater part of the process necessary for the reality of that

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which is imitated. For instance, the child mimics the farmer sowing the seed or mowing the grass, but does not use seed, or a scythe that will cut anything. In fact (if we notice carefully) he does not imitate closely even the motions of the hand or arm. In the symbolic or imitative stage one thing stands for another, and one act for another, when there is only a superficial resemblance. Hence the child arrives at only crude unities of thought and action in the kindergarten. He is trained to look for unities rather than to find them. But imitation and symbolism strengthen mightily his power of attention and his development of bodily skill, while they give him the ability to understand the feelings and motives of the human beings around him. But in the elementary school the child is not taught to seek resemblances so much as to analyze and define accurately. He must now individualize facts and events rather than gather them into loose aggregates by means of symbols.

The chief characteristic of the method of teaching in elementary schools must then be accuracy of definition. The word must be made to recall the child's experience. He must be made to verify for himself by experiment all that can be reproduced by him without costing too much time. For there are many things in the infinite concourse of particulars that do not pay to verify by experiment. The good normal school shows the elementary teacher how to select the typical facts in each department for illustration and where to require much or little practical experiment in the way of verification. But everywhere the child's experience must be drawn upon for illustration.

In order to fit the teacher to perform this work, the normal schools of this country, since the first one was opened at Lexington under Cyrus Pierce, have followed substantially the same tradition and made the chief part of their course of study a review of the elementary branches—reading, writing, arithmetic, geography, history, and grammar.

It has often been said with the air of an apology that this review would be unnecessary if it were possible to secure pupils of advanced grade, implying by this that if the second-

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ary course of an ordinary high school had been completed, this review work in the elementary branches would be dispensed with and certain advanced studies would be undertaken instead.

But this is not borne out by experience. The teacher who is to teach these elementary branches after graduation finds no work of preparation in the normal school half so valuable as this review of those branches in the light of more advanced studies. No work that is done in the secondary school—that is to say, the high school or the academy—is an equivalent for the normal-school work done on the same studies. What is learned for the first time in the elementary or the secondary school is learned as a step to what lies beyond. Thus arithmetic is a step toward algebra and geography a step toward the organic sciences such as biology, geology, and ethnology. When the pupil has climbed to the studies beyond, he drops the elementary steps out of sight. Of course it follows that, in the high school or the college, those lower branches are not reviewed in the light of the higher branches—arithmetic is not studied anew in the light of algebra and geometry; descriptive geography is not reviewed in the light of physical geography, botany, zoölogy, and geology; English grammar is not reviewed in the light of studies in Latin and Greek, or in philosophy and logic; nor the history of the United States seen in its relations to that of Great Britain and the Continental nations of Europe.

But the teacher needs precisely this re-examination of all his elementary branches in their relations to the higher studies that furnish them their rules and laws.

It has happened that the American normal school has taken up just this work of review from the beginning, and has performed it well during the entire sixty years of its existence.

It has induced in the young men and women preparing for the work of teaching a habit of looking at the lower branches in the light of the higher branches from which they derive their principles. This we may call the method of construction; it takes up a branch of study and views it constructively

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—for to study arithmetic in the light of algebra and geometry is to study it constructively. Its rules are derived from algebraic formulæ and are to be demonstrated by algebraic processes. So the details of geography have their explanation in the formative processes that shape the land and water, all of which are treated in physical geography, and in the sciences of which it is a compendium. The higher the standard of preparation in the pupils who enter the normal school, the more profitable is this work of reviewing the lower branches in the light of the higher and thus studying them constructively.

A good teacher in any grade of work requires the reflective habit fully formed. The subject when first learned cannot be seen as derivative from still higher branches. Hence the average graduate of the high school who has not reviewed the elementary branches in the light of the high-school course of study cannot teach them so well as the normal graduate who has applied the secondary course of study to the elementary course in a constructive manner.

The first learning of a subject is and must be largely a work of the memory. For how can the pupil know the derivation of an object until he has first formed some acquaintance with its present state of existence? But the real knowing begins beyond the process of memorizing; it begins with reflection upon the data given and with the discovery of inter-relations and the process of derivation from higher sources.

The fact that the standard of admission by age into the normal school is higher by two years, three years, or even four years, makes a great difference in the work of studying branches constructively. Nothing is more important than age in the preparation for a reflective habit of mind.

Hence the normal school finds it possible to conduct all of its lessons with special attention to method. While the pupil of an elementary school learns a lesson in arithmetic, geography, or grammar only with the object in view of clearly understanding it, the normal-school pupil is always to think of the method of explaining this and making it clear to boys and girls.

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He not only masters the branch of study as presented in the text-book or by the professor, but he studies critically the method of presentation of book and teacher and thus acquires a critical point of view.

The class work and recitations of the normal school therefore take the student by surprise at first. He supposed himself to understand already the simple branches,—geography, grammar, arithmetic,—but he discovers now that there were a thousand phases of each lesson which he had not before noticed. He sees the importance of a full preparation on the part of the teacher if he is to be able to take advantage of the opportunities which the class exercise will give him to correct wrong views and bad methods of preparing the lesson.

He therefore studies his second lesson with many side questions in view. He improves from day to day, and in the course of a year he has formed a new ideal of the best method of study. He has passed from the method of following the lead of the text-book and committing it to memory to the better method of critical investigation. Formerly he would have been well satisfied with a pupil who repeated verbatim the words of the book and would have done little to probe the understanding. Now he would go directly behind the words of the book into the pupil's understanding and teach him how to think—how to investigate for himself. For the teacher has acquired in the normal school the habit of comparing one statement with another and with the results of his actual experience. He penetrates the plan of construction of the book itself. This makes him a shining light for his pupils.

We must not suppose for a moment that any other fine qualities, any acquaintance with educational devices or what are called " fads " or fashions, will make up for a defect in this knowledge of the constructive method. The solid foundation of successful work would be lacking.

This view, if correct, will explain to us the improvement that has come to our elementary schools from the multiplication of public normal schools supported by the State or the municipality or founded on their model by private enterprise.

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The records show that in the past seventeen years the enrollment in normal schools supported by States or cities has increased from about 10,000 pupils to something over 43,000. The attendance on normal schools founded and supported by private enterprise has increased from about 2000 to 24,000, tho the increase has been very slow in the past three years. I have obtained the earlier terms of this ratio by revising the data furnished in the reports of 1880. Up to 1890 the statistics of normal schools did not carefully separate the pupils enrolled in the preparatory department from those in the regular course of study. I have therefore revised the earlier data, which show 25,736 students in public and private normal schools in 1880, and reduced that number by a little more than one-half. Thus revised, the figures stand 12,000 in 1880 and 67,380 in 1897. In 1880 there were 240 normal students in each million of inhabitants; in 1897 there were 936 in each million.

The normal school, it may be said, in view of the explanation I have just now given of its instruction, has the general effect of making its pupils observant of methods.

The ordinary person sees results, but does not take note of the methods by which they are produced. Hence the teacher who has never received instruction in a normal school may happen to be a good teacher, but it is quite unusual for him to understand how he secures his own results; and he is not often able to profit by seeing the work of other good teachers. For he cannot readily see what method they use, not having acquired the habit of looking at methods. On the other hand the normal-school graduate can seldom visit a successful school without carrying away some new idea or at least some new device of method. Hence normal-school graduates continue to grow in professional skill for ten, twenty, or even thirty years, while it is said truly that the teachers not from normal schools usually reach their maximum skill in from three to five years. After that period degeneration is apt to set in because of the fixation of methods in ruts—a mechanical habit grows on the teacher who does not readily see how his mannerisms look to other people. He becomes

a pedagog in the bad sense of the word and is a living caricature of his profession.

It would be supposed that what we have called the constructive method is a final one and good for all grades of pupils above the rank of elementary. There is, however, a difference between the method of elementary instruction and that of secondary; and a further difference between the latter and higher instruction.

The elementary course of study is adapted to the eight years of school life extending from the seventh to the fourteenth year of age. The course of study deals largely with what have been called "formal studies," namely with those relating to arts such as reading, writing, and numerical calculation, and hence, as we have before seen, the acquirement of the use of technical words as tools of thought. Altho the distinction between formal studies and studies with a content is a superficial one, because all studies have a content and the higher studies relate more to a content that is made up of forms—for example, higher geology relates to the laws of succession of the rock strata and to the laws of action of cosmic forces—and these laws are forms that govern the geologic facts of observation—or, for another example, in biology science pays most attention to the mode of behavior of plants and animals, and behavior concerns the form of action, and this form of action determines the particulars of all life—the zoölogist would be unwise who should neglect the study of the modes of expression and communication of bees and ants or of monkeys and crows on the ground that language is a formal affair.

Yet we must admit that the child under fourteen years of age, when he has mastered the technique of knowledge in the elementary school, has not yet acquired much knowledge of human nature nor of the world of facts and forces about him. He can grasp isolated details, but cannot make large combinations nor perceive whole processes when they are complex.

It is, therefore, a necessary characteristic of elementary instruction, in comparison with secondary or higher, that it

must take the world of human learning in fragments, and that after all has been done to arouse thought and reflection the memory will have more to do than the thinking power. The child cannot separate so well the personal equation from the results of his observation, nor can he help his warped views or his narrow prejudices. He is full of superstitions, and cannot discriminate readily between what he actually sees and what he believes that he sees because he expected to see it.

From these reasons it is obvious that elementary instruction is perforce obliged to deal more with facts than with broad, general principles; that it must return oftener to the immediate object and dwell less on the process of its construction by producing forces. The training of the teacher in the habit of tracing a lower order of facts constructively into the higher order from which it has been derived makes him alive to the shortcomings of the mind of the child and more skillful in finding the facts that will serve as types of the process. If one is to describe in a word the success of the elementary teacher, he will say that he is successful in bringing typical facts before the mind of the pupil and in stimulating the pupil to analyze them and find the law or principle embodied in them.

Every fact is a synthesis or combination. For every fact takes together a series of things and events and also excludes other series of things and events. Let me illustrate this by the fact of the fall of the apple and the observation of the law of gravity by Isaac Newton. The fall of the apple was at first a fact of very small compass, so small indeed that a swine could comprehend it and hasten to appease his appetite by eating the apple! But the fact of the movement of the moon in its orbit was another fact that had no apparent relation to the fall of the apple until Newton happened to notice it, just then looking to see whence the apple fell and observing the moon through the branches of the tree. But to Newton thenceforward both facts became one in the law of gravity.

It is easy to say that minds differ by the size of the facts which they are able to think. The child's mind is comparatively feeble and makes small combinations; the youth in

the high school has gained in power of thought and his facts are much larger and contain more heterogeneous elements—such as moons and apples, stars and mountains, land and sea and air, all tied together by gravitation.

Again, in this reference, the young man or young woman graduating from college has learned to think still more complex facts and, from three or four observations on a comet, to map out its path in the sky, or, from the form of a word and its meaning, tell the grade of culture of the people that used it.

The post-graduate student who is concentrating all his studies on a narrow field comes in time to know it exhaustively thru his own observations, and to Cuvier a single bone of some extinct animal enables him to draw the entire skeleton, or to Agassiz a scale reveals the whole fish, or to Lyell a pebble tells the history of its formation under the glaciers.

It is perfectly obvious that the teacher must be all the time carefully observant of the power of synthesis in the pupil's mind; that is to say of the caliber of the facts which he can think, and if he would be helpful to that pupil, he must know how best to strengthen his power of synthesis.

Secondary education deals with a second order of facts as readily as elementary education deals with the first order. The second order of facts consists of a group of things and events systematically arranged so that each fact or event throws light on all the rest, and all the rest in turn explain it. Such a group is a science. The secondary pupil has for the predominating activity of his mind the connecting of facts and events into such scientific wholes, following the tradition left by investigators whose united labors have made these sciences and left them to the race.

To the elementary pupil a typical fact is the chief mental object. But to the secondary student the object is a fact of the second order, namely a science in which a whole field of facts and events has run together into a higher fact. He is to learn how to see scientific relations everywhere.

Secondary instruction, properly so-called, lays stress on

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this scientific unity, which swallows up the many facts of its province much in the same way that the sea swallows up its waves.

Secondary teachers need deeper studies such as can be found alone in the college or university. Because they deal with a tendency in their pupils to combine all primary facts into secondary facts or systems they have to govern the spirit of their teachings by a still higher principle, and this is the unity of the sciences. We see that, as any given science is a second order of fact, so the unity of the sciences is itself a third order of fact.

It is the comparative method that dominates higher education such as is given by the college or university in its academic course which leads to the degree of bachelor of arts. For each branch of learning is studied in the light of all the others in a genuine college course; its method is the comparative method.

Recapitulating for the sake of clearness: (1) the infancy period of education in the kindergarten requires a method of instruction adapted to the symbolic and imitative stage of the mind. (2) The elementary school demands the method that can seize and analyze typical facts, these facts being of the first order, that is to say, facts that are not yet treated as organized into groups by science but are capable of such treatment. (3) Secondary education requires the method which deals with the large facts that include entire groups of facts systematically arranged, while higher education deals with a still larger fact, namely the several sciences unified into a single group by the comparative method so that each science helps explain all, and all, each.

It is obvious that the method of higher education deals from first to last with a view of the world, a theory of the unity of nature and its purpose. It is the ultimate fact of the universe, what the poet Tennyson calls the

> "Far-off divine event towards which the whole creation moves."

See every fact in its group, this is the scientific view. See every group of facts in the light of every other group, and you

see the trend and purpose of the whole and possess a world-view.

It is true that a world-view is one of the first things given to the child by the family. It is given in the form of religion and on simple authority. But higher education has for its chief object the intellectual vision of the unity that makes the world an image of the divine Reason. That which was blind faith is to become intellectual and moral insight, as the result of the first part of higher education. But there is a second part of the higher education; it includes what is now called post-graduate work for the degree of Ph. D. This second part of higher education is specialized work with a view to form experts. It requires the student to perform experiments in the laboratory and to undertake researches in the library, and it accompanies these with round-table discussions called "Seminaries." In the post-graduate work the student selects a province so narrow that he may explore it thoroly and add by original research some new piece of knowledge to the stock of human learning already extant. The number of advanced students taking this course for three years in laboratory or seminary work has increased in twenty-five years from 200 to 5000 or 25 times what it was in 1872. It is the work of the university proper as contrasted with the academic or philosophic course of study lasting four years and leading to the degree of bachelor of arts. The method of instruction in this department of post-graduate work is that of free investigation, aided by the example of professors gifted in the art of original discovery. To mention examples, that of Agassiz will occur to everyone as an eminent teacher of the highest method of natural science; Joseph Henry in physics, Chauvenet in mathematics; Lotze in philosophy, and Wundt in experimental psychology; Woolsey in constitutional law; Stanley Hall in child-study; Faraday in chemistry, and Huxley in biology. The list is too long to be printed here. But one will be able by these few names to recognize the method of the teachers of specialists.

Beside, but apart from this class, stand the teachers of the college undergraduates, and the teacher of teachers here is

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the professor who elevates into consciousness the method of giving young men and young women an insight into the world-view. Such men as the late Thomas Hill Green of Oxford and John Caird of the University of Glasgow; Cousin of France, and Schelling and Hegel of Germany; Mark Hopkins of Williams College and Professor Minor of the University of Virginia; Hickok of Amherst College and McCosh of Princeton—these and others of the same type have shown power to train up teachers who are skilled in the method of higher education for culture,—the undergraduate course, whose object is to see intellectually the unity of knowledge in philosophy and comparative science. Among the eminent teachers of teachers in secondary education one thinks of Sturm, who may almost be said to have created the type of the academy as a fitting school for the college or university. Samuel H. Taylor of Phillips Academy, Andover, is a good example of the teacher powerful in training secondary teachers, for he impressed his method very strongly on his pupils. Cyrus Peirce, of the first normal school in the United States, was emphatically the type of the instructor of teachers in elementary methods.

This survey of the five steps or stages in education and their differences of method bring us to the further consideration of the new era that is now opening for normal schools; for it is evident that no longer can the teaching of teachers be limited to one method, that of the elementary school. It must rather be a comparative study of methods investigating the proper way of presenting a given branch to a pupil in any one of the five stages, and discussing the modifications needed to adapt the subject to any one of the other four stages. In the department of education of the university the students will be taught how to present a branch of study symbolically according to the method of the kindergarten; by typical facts as in the elementary schools; scientifically as in the secondary school; comparatively as in the college; as a specialist would investigate it, in the post-graduate course.

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Most important of all these methods is the true method of the academic or undergraduate course in the college. I have described it as comparative, dealing with the unity of the several branches of human learning and laying emphasis on the world-view implied by this unity.

The greatest additions to our educational theory will be derived from this study of method in the college. For it is grounded on the history of civilization (what the Germans name *Kultur-Geschichte*). The comparative history of civilization, or as it is called more frequently the philosophy of history, furnishes the ultimate principle by which to solve the deepest questions relating to the course of study, the educational values of each of the several branches, the construction of school programs, the limits in educative power of the several component stages in the fivefold system of education beginning with the kindergarten and ending with specialization in the university, involving the much discussed question of electives and substitutes in the course of study.

The discussions of these important questions will draw into controversy the directors of the present normal schools on the one hand and the professors of education in the universities on the other, and the future history of the normal school will show the gradual adoption of the *Kultur-Geschichte* standpoint—the discussion of all educational questions in the light of the history of civilization as a court of last resort.

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II

PROFESSIONAL AND ACADEMIC SCHOOLS: THEIR PLANS, COURSES, AND PREPARATION[1]

The following is intended to be a concise statement of principles and of current practice in the organization and conduct of professional schools,—as distinguished from academic, or educational, institutions,—and of those conditions which determine the plans, the curriculums, and the requirements for admission to the former; not so much for the purpose of developing the subject in detail as with the object of stimulating the study and the discussion of the matter by both professional and academic experts. Only thus can the most and the best be done for the comparatively novel forms of school now so rapidly assuming importance as a part of the national system of preparation of our youth " for the sequel of their lives." What is here proposed is not a study of the form and method of that " complete and perfect education," comprising true academic education and, later, professional training, as a complete and perfect system, but rather that division of the whole which, logically, follows the earlier, mainly gymnastic, education. The latter is taken to be that division of the " complete and perfect " whole which prepares the students for their entrance into the profession, or into their life's work directly. It systematically trains the faculties, and stimulates the intelligence, and provides the tools and apparatus which, employed by the thus perfected man, enable him to conquer adverse conditions, and the fates, themselves, in the sequel of this life. It does its part at least in the development of the perfect man, in the approximation, as nearly as natural ability and physical structure permits, to the ideal case: " the soul of the sage in the body of the athlete." The

[1] Paper read before the annual meeting of the Association of the Colleges and Preparatory Schools of the Middle States and Maryland, at Columbia University, November 25, 1898.

supplementary work of the professional school trains this mental and physical gymnast to the special vocation in which the later, productive, life is to be spent.

It is this latter section of Milton's " complete and perfect education " that we are particularly to study; noting how its plan is to be prepared, what courses should be taught, how the curriculum is to be fitted to its purpose, what determines the character of the preparation, and what must be, and what should be, and what may be its entrance requirements. We shall observe characteristic, and very notable, distinctions between the academic and the professional school in all these portions of these diverse systems. The comparison, for present purposes, lies between the colleges and the professional schools and not between the lower pairs, the high school and the trade school, the primary academic schools and the manual-training elementary schools; these are not to be here considered.

Our first problem involves the definition of the professional school. The following will perhaps serve for present purposes:

A professional school, as illustrated by the best modern examples, is one in which it is sought to prepare a man properly for entrance into that profession which he has chosen as the vocation of his life; supplementing his academic education by such instruction as will enable him to enter that work well fitted to perform its various tasks, to solve its problems and to rise into its foremost ranks, once this training has come to be itself suitably supplemented by the experience which comes with its practice.

The organization of the school and the construction of its curriculum are ordered by the consensus of professional opinion among contemporary practitioners of recognized experience, wisdom, and knowledge, not simply in professional matters, but in all that conspires to make highest professional success. The form of the curriculum is such as will provide the aspirant for professional distinction such knowledge of the scientific principles involved in the art, such practical information, and such distinctively professional instruction,

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as are demanded by the state of the art at the time and such as are not, as a matter of course, supplied by the academic education of earlier years.

The primary principle to be noted as distinctive here is this: The curriculum supplies what the profession demands.

The primary principle holding in the case of the academic curriculum is this: The school supplies that education which is demanded by the pupil as supplementary to some earlier course of studies.

The professional school fits itself to the requirements of its alumnus, the professional, the practitioner; the academic school fits itself to the requirements of candidates for admission. The curriculum of the professional school must be fitted at the top and its whole course must be constructed with that, the upper end, in sight; while the academic curriculum must be fitted at its lower end, and its course must be what can be compressed into the curriculum, year by year; the finish of the next lower school-course becoming its entrance requirements. The one adapts itself to the needs of a higher form of work, the other to the needs of a lower. The planning of the curriculum is thus a diametrically opposite process, in the two cases. In the one we build up from the elementary basis of education, a "ladder from the gutter to the university," as Huxley puts it; in the other a ladder is lowered from above to take the would-be apprentice up into a vocation having a scientific basis and founded upon learning derived from a special division of the pantology.

The organization of an engineering school, taken as an illustrative example, involves such considerations as the following:

The engineer is one whose duty it is to draw from nature all available materials, turn those crude materials into ingeniously constructed machinery and structures, employing every available energy of nature in their reduction to useful form; thus giving to the world its "prime movers," its machinery of production, its systems of industries, and its means of distribution and exchange; in fact, producing the material

wealth of modern civilization. In all this work of building the foundations of our moral, our intellectual, and our spiritual life—for they all find easy development when the comforts and the necessaries of life are assured by material prosperity—the engineer plans and directs. His is the generalship of the industrial army, his the genius and his the talent which originates and shapes and improves. In this he is aided by the great industrial army of the arts and trades.

In the construction of his designs, the engineer is compelled to base his operations upon data derived by experiments revealing the properties of all the materials of engineering, employing the mathematical and physical sciences, in their loftiest developments, in his designing, proportioning, and performance. He must be competent to scientifically investigate the composition and strength of his materials and their methods of reduction from the forms in which they appear in nature to those demanded in their practical use. He must be able to compute the exact size and form and proportions of all parts of every structure and every machine; making them safe against, not only the loads and resistances which they are intended to meet in ordinary use, but also those accidental and incidental overstrains which occasionally visit every construction. He must know what are the methods of the trades, in order that his designs may be practically available and that the mechanic may find them adaptable to his customary apparatus and his methods of work. Thus, the mechanical engineer must be something of a metallurgist, must know the principal and fundamental processes of carpentry, pattern-making, even joinery, of blacksmithing, of the molder and founder, of the machinist. He must be a draughtsman and a machine designer, familiar with the higher mathematics, the use of applied mechanics, the chemical and physical principles involved in the production of metals, the preparation and use of fuels, the development of power thru the agencies of thermo-dynamic, hydraulic, and pneumatic energies; with the arts of construction of rolling mills and blast-furnaces, of steel-making and of the formation of alloys; with the design, construction, and

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operation of marine and stationary steam-engines and locomotives, and all driving or driven machinery. The battleship is largely of his creation and the great ordnance of our forts and our battle-ships is classed among his simplest heat-engines.

The engineering school is a professional school or college in which the young man about entering into the profession is taught so much of the art of a chosen vocation as his seniors find it practicable to introduce into the curriculum—that is to say: so much as can be taught without preliminary practical experience. This means: so much of the art of design as is capable of being prescribed by rule and measure; so much of standard forms of design as will at least serve as illustrations of methods and practically useful standards of form and proportion and of method of aggregation. With this professional work must be given such tuition in applied science, and in the arts and trades subsidiary to engineering, as is found to constitute an essential foundation and preliminary to the strictly professional instruction.

The profession demands of the school that it shall do its work well, so far as it attempts to do it at all; that particular care shall be taken to give the novice a good knowledge of those essential branches of pure and applied science as cannot be reasonably expected to be secured in after-life, during professional practice and in the business office. The demand of the profession is for a logical, scientific, practically useful course, in which every day and every month and every year, from beginning to end, shall be occupied, fully, with directly helpful, professional foundation-building. So much is dictated by the profession.

The aspirant to introduction into a profession asks that the professional school shall, in the most effective and economical manner possible, give him an apprenticeship in the fundamental sciences and arts of his profession such that he may hope to find himself immediately useful, capable of earning his living in his chosen vocation, and in such manner, and to such extent, that he may reasonably hope, with industry and due application of a good mind and a special talent,

to reach, in time, the highest ranks of the guild. He, too, demands that the school shall devote every moment and every exercise, as far as practicable, to elementary professional work; providing instruction in applied science, in the arts, in the peculiar methods of professional work and practice, and in such accessory subjects as he may fairly expect to find helpful in the course of his work in life and which are not properly included in that good common-school education which it is fair to assume that every aspirant has found time and a way to secure.

The people need professional schools that shall provide them with able, learned, sensible, and safe practitioners; men who shall be responsible and trustworthy, good advisers and sound in practice. This means that the professional school should cast out, promptly and without hesitation, all who are found unfit to become creditable members of the profession; sending them out to find their own places in the world, in other vocations for which their natural talent, their inclinations, and their habits better fit them.

The academic, the educational, systems must be constructed to meet the general needs of the people, not of any one man or of any special class of men. Their purpose is to educate the people, generally, in all that all people should know. Theirs is a general education, not a special, professional, training. They have a right to demand that the instruction of the professional schools shall include all the special training in the arts and in the applied sciences, and that the academic schools shall not be called upon for any other teaching than that which is certain to be generally useful and helpful. They educate; the professional schools do not—in a proper sense. The professional should be educated before he attempts to begin the study of his technical course; and the better he is educated, the higher, other things being equal, will be his professional success.

The same is true of the relations of the college and the professional faculties and schools. The course of education, general and liberal, leads onward and upward, in an unbroken track, from the kindergarten and the primary school to the

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high school and the college and the university. Somewhere along this road, the professional must usually break out and take up his professional studies. Few and fortunate are they who are permitted to secure that higher and most truly liberal education which is provided by a good college, still fewer that of the university with its advanced graduate work. When the transfer takes place, general education, formal education, ceases and professional training begins, with its new, and also noble, tho incidental and informal, education of specific faculties and its world-wide training. The gymnastic development of intellect and faculties here ceases and the development of the man, by labor for profit, begins.

The ideal professional curriculum, as called for by the profession, is thus one in which all strictly professional knowledge and method and convention is taught, in preparation for the useful application of such accomplishments in the work of later, professional life. It includes no non-professional work, except in so far as the applied sciences, the modern languages, possibly the classics in some cases, are needed preliminaries and are not to be expected to be brought by the novitiate from the academic school out of which he is found usually to transfer himself to his selected business. A truly professional school confines itself to professional work just as closely as is found practicable, not only because it is a professional school and is not intended to do more than teach professional work and essential preliminary subjects, but also because it is the recognized right of every youth to secure just as complete and perfect a general education, in the academic schools and under expert teachers, as his means permit, and also because the space of time between the leaving of the educational course and entrance into business as a practitioner should be made no longer than is absolutely necessary. Time and talent, at this period of life, are enormously valuable in business, and too long retention in the schools is liable to take from the young man that alertness, that ambition, and that ability to effectively " hustle " in driving business, which are vital elements of professional success. The essential characteristics of the professional man and of the scholar are

so absolutely different that to convert the naturally successful business man into a scholar by too long a course of continuous study is likely, in the average case, to prove as disastrous as to throw the scholar into the whirl of business. Fortunately technical studies of the higher grade have a practical side which is an admirable corrective to this tendency and permits prolongation of the period of study into later years with less risk than might otherwise be incurred by the man of business.

The expert must do the teaching in the professional school. Experience shows that amateur work in the technical school or in technical departments of the academic school, whether in teaching the professional branches, or in pure science or in the applied sciences, is fatal to success on the part of the teacher and to efficiency of the department of the school or college permitting it. The best of teachers working in unfamiliar fields and outside their professional work simply fail.

The view of the faculty of the professional school is that to be given all weight—provided that faculty is composed of men of judgment, experience in professional work, and recognized position in the profession itself. The demands of the profession are by them perfectly well known and the best methods of meeting those imperative requirements are most familiar to them. It is for them to say how a professional school can best be organized and how best conducted. They only can say when it meets the needs of the profession, and only a professional faculty is competent to settle questions arising regarding curriculum, methods and amount of instruction, nature and extent of accessory work. The view of the aspirant for admission, the desires of the parent, the claims of interested amateurs or of individuals of serious but mistaken convictions as to their own missions in the world, in the improvement of educational methods or in the promotion of the highest interests of the student must all be subject to the decision of this highest court. Even the academic teacher is here given no right of dictation, but must submit his views to the more completely informed professional faculty for decision.

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The division of responsibilities between the profession of which the professional school is the representative, the organ, and, if directed by leaders in the craft, the most advanced and influential detachment, and its faculty, the candidates for admission, the parents, the citizens at large, and the faculties, particularly, of the non-professional schools, becomes sufficiently obvious immediately the true mission of the professional school is recognized. The profession needs and demands a specified amount of preliminary training for its novices, in the arts and trades subsidiary to the profession, in the sciences, pure and applied, which find fields of application in that vocation, and such other instruction as may be needed directly or indirectly but is not ordinarily supplied by the common-school system from which the average citizen is assumed, in this country at least, to be sent out into his life's work. The profession usually demands so much more, however, than can ordinarily be taught in the time found to be practically available for the work that the faculty must determine what must, in spite of the demand of the profession that it shall be furnished by the school, be left to be acquired under all the difficulties of a pressing business life, and it must also decide what, if any, academic studies, consulting the best interests of the profession, must be found a place in the curriculum of any one school or class of school, professional or semi-professional. Its one great duty and privilege, as a congress of experts in the profession, is to adopt, if necessary to make, a way of supplying the profession of which it is the feeder with a body of fresh and efficient novices, from their novitiates, who shall prove useful aids, efficient practitioners, and, later on, men competent to so perform their tasks as to secure the confidence and earn the distinctions accorded, the world over, to leaders in the learned and helpful professions. To insure the highest efficiency of this body of experts, it is essential that it shall not be diluted by amateurs, hampered by non-professional dictation, nor fettered by tradition of ancient and procrustean methods. The procrusteanizing tendencies of the older systems have enormously impeded the progress of every country in the endeavor to found good pro-

fessional schools and, in Europe, particularly, have led to the conviction, often expressed in earlier days, that there exists so serious an incompatibility between the technical schools and colleges and the academic colleges and universities, that the policy of forcing both into a common organization, as in our State universities, for example, is simply a fatal error.[2] Nevertheless, experience shows that the difficulty is not inherent in the complex organization, and may be entirely avoided by a wise faculty in which each member attends to that work in which he is expert and leaves to his neighbor that in which the latter is no less an expert, and in which the technical and the academic faculties adopt, as faculties, the same policy. The success of some of our universities in this direction is to-day bringing about a very decided reversion of opinion among many eminent German educators. In this country, the old conviction of the incompatibility of academic and professional study, and of the impossibility of good schools of both classes growing up side by side or even with mutual advantages, is very greatly weakened and, in some of our universities, at least, quite forgotten.[3] Without attempting to dictate, each helps the other by example, suggestion, and cordial good will; while each faculty and every head of department does his own work as best he can without interference or dictation from others less expert.

Entrance requirements for professional schools are determined, as is now evident, by directly opposite considerations from those dictating the requirements of the academic schools. For entrance into the professional school, there

[2] This was the opinion, years ago, of Dr. Reuleaux, and practically all the great German and Continental educators; it was also the view of President Eliot of Harvard, when he entered upon the duties of his great office, tho himself a technical man, and the words of Professor Koechly are well known to most members of the profession of engineering. He said, in effect, that if we of the technical schools cannot fight side by side with the universities, we may at least fight back to back in the great struggle against ignorance and inefficiency in life.

[3] As an illustration: Sibley College has now been growing and prospering, steadily and with never a halt, in the presence of and by the aid of the academic schools and colleges of Cornell University. It has rarely suffered from the old, "natural repulsion" between the professional and the non-professional, and nearly one-half its courses in the pure and applied sciences are taught in the technical departments of the university.

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must be demanded such preparation as fits the candidate for admission to enter immediately upon those professional and semi-professional studies and courses which the profession has found to be the essential features of a suitable curriculum to meet its needs. The requirement of the academic school is necessarily such preparation as the schools immediately below have been able to give. The graduating work of the high school is the entrance work for the college; the first year's work of the latter is the immediate and natural and necessary sequence of the concluding work of the former. The entrance requirements of the professional school are determined by the nature and extent of the curriculum of that school as prescribed by the profession; those of the academic school constitute the foundation on which is built up the curriculum of the academic college. The principles of prescription are entirely different and absolutely independent. Regarding this feature of our case, the following may be of interest as a statement of the matter submitted to the Trustees of Cornell University in a recent report of the writer, in response to a call from that body for some such discussion.[4]

The method, in detail, of constructing the curricula and determining the entrance requirements of engineering schools is the following:

(1) Ascertain what are the needs and the demands of the profession to insure the highest efficiency of its practitioners, the best result of its operation as an element of the industrial system of the nation.

(2) Determine just what portion of the professional training is practically and appropriately to be demanded of the professional school. Take this scheme, properly scheduled, as the reasonable and proper requirement of the student entering the profession as a novice, with his strictly preparatory education completed, prepared to commence the acquirement of the art of that profession by practice and experience.[5]

[4] *Sibley College Reports*, 1898.

[5] This scheme presumably should include a knowledge of the pure sciences underlying the art to be pursued; for such studies cannot reasonably be expected to

(3) The plan of the curriculum of the professional course being thus by exact methods prescribed and limited, it must next be ascertained to what extent the educational institutions to be drawn upon can supply the needed preparation for entrance upon the proposed course. A statement of such work in preparation as may be reasonably expected constitutes the proper system of entrance requirements and the only appropriate demand for the professional school.

If it is found impossible to secure elementary preparation for entrance into the course as planned, it will be found necessary, as has constantly occurred in our own schools, to incorporate some non-professional work into the professional scheme; but this means simply that the professional school is compelled to do work outside its province. Should it prove, as has usually been the fact in this country, that so much non-professional work must be performed in the professional school as to compel excess of load, the surplus is necessarily left out and the student is compelled to defer professional study of importance until actually entering upon professional practice. Such a mongrel course is now illustrated more or less by practically all engineering schools, and it may be a generation before the average can be raised to a professional level.

Meantime, we are endeavoring to gradually raise the professional scheme of instruction and to provide opportunity for the advanced student to secure accessory and closely re-

be acquired in later professional life. It must include so much of the applied science of the chosen vocation as can be safely and successfully incorporated into the curriculum of the school; for it is this which constitutes the claim to rating as professional. It should include such necessary and such desirable elements of the college curriculum as are not fairly to be expected to be possessed by a novitiate and which are needed to permit the acquirement of professional knowledge.

The complete scheme of studies for the technical school of this higher professional class, obviously, thus comprehends these three main divisions: (1) as the ultimate and final preparation for professional work, certain distinctive and professional branches which are recognized as appropriate and needed for professional success: (2) certain branches of pure and applied science which are essential as preparatory to, or as needed accompaniments of, the distinctively professional studies: (3) certain accessories, the possession of which is found by professional experience to be prerequisite to main or incidental lines of work and progress toward the ideal of the profession.

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lated and important instruction in law, economics, the finance of engineering, and economics of manufactures; at the same time, circumstances permitting, proposing to restrict the specified preparation for the professional school to essentials, leaving to the candidate for admission the decision of the question just how far he can afford to give time, money, and strength to the pursuit of earlier academic studies.

The fact is that, with every technical school and especially with every professional school in the department of engineering, the entrance requirements should be made just as few, just as fit, and just as precise in adaptation to the courses of be taken up as by any means possible. The nature of the professional course to be offered, and the sequence of primary studies with its special courses, determine the proper requirements for entrance. To increase entrance requirements by introducing those which do not furnish suitable introduction to work to be taken up is to deprive deserving men, usually the most deserving classes of young men, of the right of gaining a scientific knowledge of the fundamental principles of their chosen profession, or art, or vocation. To raise requirements for sentimental reasons, simply to make entrance into such courses as difficult as into others, is, in the opinion of every person familiar with the equities and the facts of the case, a crime against the people, and especially against the "industrial classes," the special care of whom is made, by the fundamental law and by the charter of the State university, a primary duty. "Procrusteanizing" is bad in all departments; but procrusteanizing in any university seeking to adapt itself to the needs of a people, including the "industrial classes" as well as the cultured, is an educational blunder, a political mistake, and a crime against those classes of society which it is the great purpose of its founders to give most effective aid. Every faculty must be the judge of the best methods of accomplishing its purposes.

The steps which may be expected to lead to further increase in the requirements for admission to make them equivalent to non-professional studies, or more than the equivalent of the existing academic examinations, are:

(1) The demand on the part of the profession for so advanced a course as will permit the further rejection of non-professional studies and their remission into the preparatory schools or the academic departments of the university.

(2) Preparation on the part of the preparatory schools generally to teach, in their scientific departments, fully and satisfactorily, the needed non-professional subjects—mainly pure and applied science.

(3) The advancement of the principal and leading professional schools of engineering to the grade already attained by the leading schools.

(4) Ability on the part of pupils coming forward from among the industrial classes, generally, to give time and money to secure the requisite preparation and a four-years' professional course of the standing proposed; deferring going into business the necessary length of time. This is now a rare case among the industrial classes.

(5) General approval by the profession of engineering of the proposed policy and courses.

(6) Such change of circumstances and of views of educational matters as shall lead the industrial classes, generally, to view with favor compulsory action of schools of engineering demanding a general education of maximum high-school grade as a prerequisite to admission to professional schools.

The subject here under discussion has attracted much attention, of late, and in many directions in which one would hardly have expected much interest to be felt in the matter. College faculties, academic as well as professional, boards of university trustees, the press,—general, educational, and technical,—and " all sorts and conditions of men " are apparently finding these supplementary educational systems sufficiently important and practically interesting to cause much earnest thought and serious discussion to be brought to bear upon them.

Thus: the editor of a leading and influential journal, one of the ablest in its department, remarks:

> It is all very well to say that a man thoroly grounded in general principles can attack any problem successfully, and that the purpose of educa-

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tion is to teach men to think, and not to merely fill their heads with useful information. All this, in a broad sense, is of course true; but, at the same time, the object of most young men in attending an engineering school is, we think, not so much the development of their minds as the equipment of themselves to earn their livelihood; but there can be no doubt that the course of study should be directed to the latter object, and that the student should be familiarized with the sources of those data and practical formulas which have been put in shape for quick use. [6]

And, again, it is remarked:

We are fully persuaded that the spirit of the old, so-called liberal education—whose chief purpose is mental discipline—has been allowed to have altogether too much influence in modern technical education. A modern engineering course cannot be pursued without its affecting the mental discipline, and many strictly technical subjects are just as valuable, from that standpoint, as those which are lugged in for that purpose alone. The mental discipline is, in other words, a necessary incident to the work, and no special effort need be made in that direction. The feature requiring attention is not, then, in our opinion, the discipline of the mind, but the reduction of general principles to the point where they can be applied to use.

Writing of the proposal to adjust entrance requirements for all kinds of schools, in all parts of the country, by conferences at which a common, universal curriculum and requirement shall be prescribed, a distinguished iconoclast remarks:

The advantage of such a system is open to much question, especially as respects a department in what may be called a formative or plastic stage of development, as English at present unquestionably is. If its end be to bring about a species of combination in restraint of trade among the institutions of advanced education, so that no one of them shall secure more than its share of the business by putting the standard for admission lower than the others, it presents an aspect of the educational problem in no way edifying. It is again a case of quantity as opposed to quality. If, on the other hand, the result of the "conference" is to establish a rigid uniformity of requirement, it may safely be assumed in advance that it will be a uniformity of the pedantic and the commonplace. *Non tali auxilio*—no real advance in the higher education will come in that way.[7]

The position which is held to-day by the newest professional schools, those of engineering, in the United States, is perhaps best indicated by the reports of professional critics

[6] *Sibley College reports*, 1898.

[7] Charles Francis Adams, in *The Nation*, December 9, 1897.

and experts from Europe, and especially from Germany. An American writer on this subject has recently made the following statement:

> After considering these chaotic entrance conditions to the professional colleges of law and medicine, it is refreshing to return to another, in which, with but little pretension,—with modesty and deprecation, rather,—a model has been set which all other professions will, in the end, surely follow.
>
> The engineering profession to-day is, upon the whole, the best educated in America. While there may be a smaller proportion of highly trained men, there is also a far smaller proportion of poorly trained ones than in either medicine or law. It may seem strange that that profession which comes less into immediate contact with the general public should be, upon the whole, more highly trained than those which touch so closely the pecuniary and physical well-being of everyone. But the reason is not hard to find. The engineer is judged more by his peers, while the lawyer's or physician's success is dependent very largely upon the public. The capacity of the engineer must invariably be made apparent to men of affairs and ability, while the lawyer or physician is judged, for the most part, by those who are incompetent to determine his real merits.
>
> The most earnest students that we have are those of the professional schools. A distinguished teacher of engineering has said: "It is unquestionably a fact that the engineering students of our colleges do more and harder work for a degree of equal grade than do the students of other departments." As a teacher of medical science I know that the average medical student does fifty per cent. more work than those of like capacities in the undergraduate art courses. There can be no denial of the fact that the most earnest students are those who seek knowledge as a direct means of success in life rather than for the mere pleasure of its possession.[8]

"Quite as good exercise may be found in getting some whither as in walking around the square," and the question of the relative educating value of the older standard educational scheme and the comparatively recently admitted curricula of the non-classical and the technical schools has largely dropped out of sight. Experience shows that the graduates of the more scientific and less monastic and literary courses are, in fact, in no degree inferior, and suffer in no way in the comparison, beside the product of the school organized on the plan of the mediæval schoolmen. Every exercise in applied mathematics, for example, gives at once the desired gymnastic training and a new power of accomplishment of useful tasks. Each lesson in physical science, or in a modern

[8] S. W. Williston, in *Science*, December 10, 1897.

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language, gives the training and discipline of the gymnastic schools and at the same time, and with even added efficiency, promotes the power of acquirement of learning, while it makes the learning thus gained take a continually more and more productive and effective form. All scientific and technical schools have curricula which presuppose, and usually demand, for entrance some adequate instruction in the high schools in all the essential liberalizing classes of literary and historical work, if not in the classical studies themselves. The whole course, trend, and purpose of such schools and colleges must invariably and with peculiar effectiveness insure not only the acquisition of " useful knowledge," the *bête noire* of the ancient régime, but also very effective intellectual gymnastics and an increased power of retaining and utilizing knowledge such as only that peculiar interest which comes of actual use can confer.

In the opinion of many of the ablest and most authoritative members of the profession, the process of raising entrance requirements has already gone too far, and the result of carrying the process further, for purely sentimental reasons which do not appeal to the people who desire to send their sons to such schools, will be to seriously cripple institutions of this kind in the work of aiding the industrial classes and of complying with the spirit as well as the letter of the law making the " leading objects " of these schools and of the colleges to which they are attached that of providing technical instruction for those who cannot, because of lack of time, of money, or of talent for literary work, take the older college courses, and with whom lies the alternative between going into technical schools and going directly into business, when leaving the high schools or earlier.

As it is, in the opinion of these members of the profession, we lose many opportunities of helping young men, who now go directly into business, while, were the requirements made, as they would say, more reasonable, they would secure a good scientific training for their chosen work. The university thus loses its greatest opportunities.

In illustration may be mentioned the fact that elevation of

the entrance requirements of Sibley College, a few years ago, by a year of mathematics—demanding higher algebra and advanced work in geometry and trigonometry, so that the college work should begin with analytical geometry—resulted in cutting down the entering classes forty per cent., and thus nearly one-half of the young men who might have been given a good scientific education in preparation for their professional life were sent into business untrained; for there was no evidence of their entering college in other departments or going to other institutions.[2] The change here referred to was not, however, from deliberate choice on the part of the authorities, but was compelled by excess of numbers; it being found impracticable to properly handle the excessively large classes then coming forward for professional training previous to going into business. The outcome, however, was from every other point of view satisfactory. It permitted the establishment of a vastly improved course, the selection of admirably prepared men, and the elevation of the school to a more nearly professional position than could otherwise have been reached. To-day the great German and other foreign technical colleges are endeavoring to get our methods of experimental engineering introduced into their curricula. It further permitted the organization of the higher, the graduate schools of special departments of engineering, as marine,

[2] STATISTICS OF SIBLEY COLLEGE, 1886–98.

Number of Students in Sibley College	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895[1]	1896	1897	1898
Resident graduates	7	9	15	14	14	15	19	28	56	35	22	38	27
All other grades	105	177	223	289	374	435	503	553	582	501	501	456	444
Total	112	186	238	303	388	450	522	581	638	536	523	491	471
Number given diplomas	11	19	22	32	54	52	90	93	81	87	109[2]	130	90[3]
Number of professors	2	3	2	2	2	2	2	2	2	2	5	3	6
Number of associate professors	1	1	1	2	1	2	3	4	4	4	2	1	0
Number of assistant professors	0	1	3	2	3	4	3	3	3	3	2	5	3
Number of instructors	4	3	3	5	7	5	8	10	11	11	11	11	12
Number of assistants, etc.	2	3	5	6	5	5	6	10	11	12	12	12	12
Total giving instructions	9	11	14	17	18	18	22	29	31	32	32	32	33

[1] Higher mathematics demanded.
[2] Last class with old, usual requirements.
[3] First class graduating under new system—Advanced mathematics required at entrance.

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railway, and electrical engineering, to be effected in satisfactory form.

Summarizing the principles which control in the construction of the technical and professional schools and in the correlation of these schools to the educational institutions of the country, we may assert the following principles:

(1) In seeking to educate a people, offer what the people need and can appreciate as needs to their progress thru life, as well as a gymnastic education. The people can be trusted to judge when and where they may find it best to follow the educational curriculum and where and when to pass over into the technical and professional. They can be trusted, where fitted for intellectual work, to continue their education as far as practicable.

Not many years ago the people were offered only such schools and curricula as educators of literary tastes desired to give them. Our colleges made comparatively slow progress. Then scientific courses were introduced into college curricula and scientific and technical and professional engineering schools were organized and our colleges grew rapidly and the new foundations found ample support.

(2) In organizing any course, literary, scientific, technical, professional; in college, technical school, or professional school; highest success will be attained when the work, in every department, is performed by an expert in that department of education or professional practice, and when the organization is effected and the institution managed by expert practitioners in its field.

The lawyer should organize and conduct the law school; the educator and teacher of such subjects should organize, conduct, and entirely control academic work, and the engineering practitioner and expert should similarly organize and control the professional school in which the principal object shall be the professional training of young engineers. Each subject taught, also, should be taught by specialists, familiar with both the theory and the practice of the art and with the fundamental and essential methods of that department of

human knowledge. The more learned the better, and especially in that learning for which cultivated people have most respect; but always and completely learned in his special department. Experts, never amateurs, must be intrusted with the instruction of youth in whatever department of liberal education or of professional training they may be at the moment seeking knowledge. The time has gone by when one man can ordinarily be expected successfully to teach higher mathematics and history or chemistry and languages.

(3) In organizing schools and curriculums, assume as high a preparation as is practicable, and as broad an education preliminary to entrance into professional work as is practicable, and thus build the program on as high a plane as possible. No curriculum will ever include all that is desirable and no system of entrance requirements will ever be too high, if appropriate and practicable.

If these principles are effectively put in practice by our academic, our technical, and our professional schools, organized as portions of one great " complete and perfect " system of education as seen from the point of view of Milton, giving opportunity to all and providing a ladder from the gutter to the highest point that the citizen of the most enlightened of nations may reasonably aspire to in each individual case, we may hope to see, in time, schools and colleges of ideal curricula crowded by students, zealous, well-prepared, ambitious, and efficient; parallel lines of study in technical schools in which those of our youth, unfitted for advanced study in the fields of literary or classical culture, may yet gain a knowledge of the applied sciences and of modern languages and literatures while seeking special preparation for their chosen vocations, for the sequel of the lives which, they are conscious, destiny has assigned them; while the professional schools, in law and in medicine, in theology and in engineering, will place themselves in rank with the noblest of our universities and side by side with them, as Koechly predicted, fight bravely and wisely and effectively against the greatest enemies of our land: ignorance, prejudice, false traditions, and bad politics. Together, they will conspire to give our

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men of wealth and leisure that culture and learning which, only, in the domain of scholarship can fit them for their places of opportunity; to provide for our professional men the solid foundations of their careers in learning, in scientific preparation, in technical instruction and practice which are essential to their most complete and perfect work, and to give to the sons of average citizens, unable to give time or money to higher education, precisely that preparation for the obvious sequel of their lives, in the best educational preparation possible, that the good sense of the people, the learning of the schools, and the practical knowledge of the professional, who must later direct their work, can unitedly contrive. Repeating the conclusion of the writer, elsewhere stated,[12] where practicable:

> Teach habits of physical and mental activity, and a healthy body and mind will be prolific of wholesome and noble thought; cultivate skill in fruitful industries, and the inclination to employ that skill in helpful ways will not be lacking; feed the soul with the harvests of thought of all ages, with the gleanings of the wisdom of the centuries—in whatever language, however given verbal expression—and all sympathies, latent or active, will find their destined place and work. Breed "the soul of the sage in the body of the athlete," and give the perfected soul, within its perfected body, ability to do for itself and others what life may demand of it, and trust that what may be done most effectively for the world will be done best by this perfected humanity, thru the exercise of the broadest sympathies and most efficient powers of aiding fellow-men.

Where "the complete and perfect education" cannot be aspired to by the youth who seeks preparation for the sequel of his life, in any profession, provide for him just as complete an education, in the proper sense, as his time and means permit, and then give him his professional training, not as education but as a noble apprenticeship.

> It is thus that the Miltonian training, re-enforced by Miltonian learning, perfected by Miltonian culture, doing most for the humblest, much for the highest, whether ranked by place or by mind, giving health to the body, skill to eye and hand, stimulus to the intellect, and greatness to the soul, will, always and everywhere, most effectively broaden the sympathies and render the individual most helpful to his fellow-men.[13]

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[12] "Miltonian teaching," an address at Pratt Institute, December 11, 1894. *Scientific American Supplement*, No. 1037.

[13] "*Ibid.*

III

BAUMEISTER'S HANDBUCH DER ERZIEHUNGS- UND UNTERRICHTS-LEHRE[1]

Within a few months this important handbook for German secondary-school teachers has been completed. The best comprehensive manuals for the German secondary-school teacher heretofore published are the well-known *Handbuch der praktischen Pädagogik* by Schiller of Giessen, and *Erziehungs- und Unterrichts-lehre* by Schrader of Halle. The present work covers the ground of these earlier works and comprises a vast field that the earlier works do not deal with at all. It cannot be said, however, that the later book supersedes the earlier ones, so far as they go. It is in its greatly enlarged scope that the present work distances all others of the sort. It is a co-operative undertaking on a large scale, consisting of the combined labors of not less than forty-eight men—teachers in secondary schools and university professors. The whole treatise is edited by Dr. A. Baumeister, formerly government inspector of schools in the Province of Alsace-Lorraine. The work is printed in Roman type and on excellent paper; the separate parts are convenient in size and attractive in appearance. Bibliographical references are frequent thruout the entire treatise.

The work of the several writers is quite free from any unifying attempt on the part of the editor, and each writer contributes his share without reference to that of any other. There is, of course, the external unity implied in the common purpose of the whole work, namely, to make a serviceable book for constant use in the details of classroom teaching and governing, and for reference in the history of education and in the organization and administration of secondary educa-

[1] *Handbuch der Erziehungs- und Unterrichts-lehre für höhere Schulen.* Herausgegeben von Dr. A. Baumeister. München: 1895–98. C. H. Becksche, Verlagsbuchhandlung.

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tion thruout Europe, in particular, but also in the United States and Canada. It will be found, however, that the general theory of several of the contributors has been confessedly influenced by Herbartian ideas, particularly in the matter of method.

The work is naturally large, but not discouragingly bulky. Those portions in particular which are intended for all teachers, whatever subjects they may teach, attract favorable notice by their moderate size; and the remaining portions of the work are expressly intended for reference, and for the departmental teacher, who will select the part or parts of special use to him.

The Höhere Schulen covered by the title are the classical and non-classical secondary schools for boys with six- or nine-years' courses;[2] schools for girls are expressly excluded from consideration.

The scope and plan of the work, in detail, are as follows: it consists of four volumes, each comprising two or more "parts." The general foundation or introduction to the entire treatise is Volume I, Part 1, "An outline of the history of education and of secondary schools, more particularly in the German states from the end of the Middle Ages to the present time," by Professor Theobald Ziegler of the University of Strassburg; 361 pages. This is naturally followed by Volume I, Part 2, "The organization and administration of secondary schools at the present time, more particularly in Germany"; 894 pages. As already intimated, this portion of Baumeister's treatise consists of more or less extended accounts, with statistics whenever available, of the organization and administration of secondary schools in the several states of the German Empire, and most European countries outside of Germany, and in the United States and Canada. This part of the handbook was produced under the immediate supervision and direction of the editor, who himself contributed a considerable portion of the subject-matter.

[2] Namely: the gymnasium and pro-gymnasium, the real-gymnasium and real-pro-gymnasium, the real-schule and oberreal-schule, and the höhere bürger schulen.

Volume II, Part 1, gives a systematic presentation of educational theory (*Theoretische Pädagogik*) by Dr. Wendelin Toischer of the German Gymnasium in Prague; 200 pages. Volume II, Part 2, is a corresponding treatise on general educational practice (*Praktische Pädagogik*) by Dr. Adolf Matthias, Principal of the State Gymnasium and Real-Gymnasium in Düsseldorf; 214 pages. This portion of the handbook, as will appear later, deals only with general schoolroom practice; it does not deal with the methods of teaching individual subjects. These methods of teaching are treated in a series of monographs in another portion of the work.

Important supplements or appendices are found in each of the two parts of Volume II. In Part 1, the appendix, which really constitutes a second division of this part of the work, consists of a detailed account of the professional training of teachers, by Dr. Wilhelm Fries, Superintendent of the Franckesche Stiftungen in Halle; 206 pages. In Volume II, Part 2, we have two appendices; the first deals with boarding schools, by Dr. Gustav Schimmelpfeng, Principal of the Klosterschule at Ilfeldt; 38 pages; and the second deals with school hygiene, by Dr. Ludwig Kotelmann, a well-known physician of Hamburg, and editor of a paper on school hygiene; 130 pages.

Volumes III and IV, about 1900 pages together, consist of monographs on methods of teaching the several subjects in the courses of study of secondary schools, namely: religion, German, Latin, Greek, history, geography, "mathematical geography," mathematics, French, English, physics, chemistry, natural history, drawing, singing, gymnastics, and athletics. Each monograph is written by a specialist who is or has been a teacher of his subject in a secondary school or a university.

Any review of such a comprehensive treatise by a single reviewer can be little more than a sketch of what the work contains. The present review accordingly aims only to give an idea of the plan and scope of this new source of professional guidance and inspiration and, incidentally, to comment briefly on some of its most characteristic features.

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Editor's introduction—The Editor's Introduction, prefixed to Volume I, besides setting forth the spirit and plan of the whole treatise, contains an interesting discussion of contemporary educational thought in Germany; and its vigorous style and generally sound sense, together with the high conception it presents of the function of secondary education in Germany, make this introduction of decided interest to every student of education, whatever his nationality may be. Dr. Baumeister's conception of secondary education naturally rests on what in Germany is a universally recognized principle of public policy, namely, that appropriate education is the *sine qua non* of admission to training for a profession or for a future career as a member of the directing and socially superior classes. Accordingly, the function of secondary education is to acquaint every youth with the world in which he lives so that he may know well both its physical and social aspects, and his own relation to them; and thus prepare him for the subsequent professional or technical training that is to make him a participator in some leading activity in state or national affairs or in private life. Such a conception of secondary education naturally calls for a comprehensive and varied course of study, which the author briefly passes in review.

Dr. Baumeister is an ardent classicist. While acknowledging the imperative claims of modern subjects in the preparation of a modern youth for life's opportunities and privileges, and hence recognizing that modern subjects have a place in modern secondary education, he insists that only the classical secondary school, the gymnasium, affords the education *par excellence*. All training converges for him in the study of the classical languages, particularly of Greek. The secondary school without Greek is distinctly inferior to the gymnasium, while the secondary school without either of the classical languages is only for those who are obliged to content themselves with the education it provides—that education which enables them to see the promised land, but does not permit them to enter it. In a fine glow of enthusiasm, he quotes from an earlier article of his own:

> So long as Goethe's *Tasso* and *Ipigenie* are more highly prized than a comfortable sleeping-car, so long as Cologne cathedral is more admired than Britannia Bridge, so long as Raphael's "Madonna" is considered as mighty an achievement of the human mind as spectrum analysis; in short, so long as the idealistic foundation of education remains,—that foundation which has enabled western Europe to become the center of cultivated humanity,—so long must we continue to regard the educational journey to Greece as the best preparation for the fullest appreciation of all the aims and interests of life. He who lacks the necessary intellectual resources for this journey may visit Italy and Rome, and there seek to acquaint himself with the origin of modern nations, and understand much that was originally foreign to our civilization, but is now ineffaceably stamped on it. The great majority, who are in haste to earn a living, must content themselves with an acquaintance with the chief domains of modern life (access to which is of course by no means denied to the former classes); they will undertake a survey of neighboring nations, and, on their native soil, endeavor to gain a thoro comprehension of their own country's history and contemporary life.

This defense of classical study in secondary education is found on examination to be, as usual, not so much a defense of the study of the Greek and Latin languages as it is a defense of the study of the literature, art, and institutions of Greece and Rome. This review is not the proper place to go into an extended discussion of the notion that the best way to-day for most secondary-school pupils to understand and appreciate the intellectual, æsthetic, and institutional debt of our civilization to the civilization of Greece and Rome is thru a study of the Greek and Latin languages. I cannot forbear to remark in passing, however, that such a notion is an international fallacy that has wrought much mischief on both sides of the Atlantic Ocean. The notion is wholly erroneous. Theoretically it is easy to show its absurdity; it has never been proved in America in practice; and so far as my observation goes, the notion is quite as much without foundation in Germany as it is in this country. In all countries for many decades the acquaintance which secondary-school pupils have acquired with Greek civilization has been derived mainly from history, from reference books and works of art, from translations, and from notes in the vernacular in the editions of the classics studied; and only to a very limited extent from the actual reading of the classical

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languages. The argument for a reasonable amount of attention to the classical languages in secondary education is not difficult to find, but it is time the absurd fallacy just referred to was abandoned.[3]

But it would be unfair to Dr. Baumeister to convey the impression that he is a narrow or bigoted classicist. In a subsequent part of the introduction (pages xxx-xxxi) we find him warmly defending most of the reforms in secondary education advocated by the Berlin Conference of December, 1890. It is well known that those reforms were made chiefly because the demands of the Emperor, who had summoned the conference, could not be set aside; and that the most important changes adopted for the program for the Prussian gymnasia and real-gymnasia, and which went into effect in 1892, consist chiefly in a reduction in the total number of class exercises per week; and that this reduction was effected mainly thru a reduction in the number of periods given to Latin and Greek in the gymnasium, and to Latin in the real-gymnasium. At the same time a small increase was made in the number of periods devoted to German, to history, and to gymnastics. By these changes, together with the introduction of English as an optional study into the three upper classes of the gymnasium, and a small increase in the amount of required and optional drawing, the gym-

[3] Dr. Baumeister's naïve ignorance of the extent to which the classics have long been studied in this country ought not to pass unnoticed. He says: "Hence, so long as the more highly cultivated classes of our own country and of the other most advanced nations of Europe still retain a vivid consciousness of their intellectual connection with classical antiquity, so long must the history and languages of the latter constitute a part of the higher education of our youth. This may even be verified by reference to young America which, altho already distancing her mother Europe in technical skill, nevertheless experiences at this very moment the need of acquiring her higher culture by penetrating to its source and is just at this time eagerly beginning to study the classical languages." [So lange daher die höher gebildeten Kreise unserer Nation und der übrigen Kulturvölker Europas den geistigen Zusammenhang mit dem klassischen Altertum noch lebendig fühlen, müssen Sprachen und Geschichte des letzteren einen Teil der höheren Jugendbildung ausmachen. Wir können dies sogar an dem Beispiele des jüngeren Amerika darthun, das, obwohl schon jetzt die Mutter Europa in technischen Fertigkeiten überflügelnd, dennoch gerade jetzt das Bedürfnis fühlt ihre höhere Bildung sich anzueignen, und dabei auf deren Quellm zurückzugehen, indem es gerade jetzt die klassischen Sprachen mit Eifer zu studieren beginnt.—Editor's Introduction, p. xvi]

nasium is said to have been "modernized." It is well known, also, that these changes at once aroused a storm of controversy in Germany, and the contest is still in progress. The results of this contest, thus far discernible, seem to be a tendency of the classicists to assume a more reasonable position than they have heretofore held; *i. e.*, to make them willing to accept less than nearly the whole curriculum for their share of the educational field, and a growing disposition to acknowledge the educational value of the modern subjects. Among other things, it will be remembered that the conference had recommended the abolition of the real-gymnasium so that thenceforth there should be only two kinds of secondary schools, the gymnasium and the real-schule. The spirit of some phases of the controversy referred to is illustrated by a recent writer in his book *Kultur und Schule*. He says in substance: The December Conference of 1890 had prepared a little drama in three acts. In the first act the real-gymnasium was to be on trial before the gymnasium and the real-schule; in the second act, the real-gymnasium was to be condemned and throttled; in the third act the gymnasium and the real-schule were to join in a triumphal dance around the dead body of their foe. But this drama failed to be enacted.

In clearing the ground for declaring his own attitude toward the questions at issue, Dr. Baumeister gives an excellent brief account of the historical development and present condition of the three classes of German secondary schools. We get from this account an insight into the crowded German programs, and into the methods of teaching, good and bad, past and present, together with a brief but vigorous plea for a more rational and effective method than has been the rule heretofore—all decidedly suggestive. The question of method is treated more at length in the immediately succeeding pages of the introduction. The general method advocated is the method of Herbart as modified by and explained in the practice of Herbart's follower Frick in *Lehrproben und Lehrgaenge*. Dr. Baumeister's approval of Frick's general method and of the model lessons in Frick's periodical is fully justified by their general excellence. This method has

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already found recognition in this country thru American Herbartians, some of whom have drawn freely from the *Lehrproben and Lehrgaenge* in their own writings; and the method is destined to win much wider recognition, for it is thoroly sensible. The two or three pages in which Dr. Baumeister attacks the pedantic arrogance of the scholar who cannot or will not see that teaching power in the schoolroom is as important as scholarship, ought to be translated and published as a tract for distribution among the members of some American and European educational centers. He points out, as has been so often shown before, how much the neophyte, whether genius or common person, could be aided in his work as a teacher by thoughtful attention to the recorded and generalized experiences of previous workers, that is, by a study of methods. He then discusses the absurd notion that what is valuable in each teacher's " individuality " will suffer by such study. He points out that there is usually much in a man's " individuality " at the outset that prevents him from developing a decent efficiency without great loss on the part of his pupils; and that there is indeed too little danger that a teacher's " individuality," with all its shortcomings, will suffer thru training. Complete or sudden and miraculous changes of personality are as little likely to occur thru training in method as thru other kinds of training. But to assert that the blunders of inexperience cannot be minimized by sensible training in methods, and that all teachers, the moderately endowed as well as the more highly gifted, cannot profit by critical study of good teaching and by reflecting on the educational experiences of their predecessors and contemporaries—to assert that such study and reflection, unlike similar study and reflection in every other field of human activity, is useless—is arrogant presumption or willful blindness.

The last subdivision of the editor's introduction deals with " a glance into the immediate future." It consists of a series of reflections on contemporary educational and social questions and tendencies. The last few paragraphs are most suggestive of all. The author, referring to the widespread in-

dustrial, social, and political discontent and uneasiness, points out that, in all probability, the most engrossing problem of the next century will be the gradual reorganization of society. To render wise and efficient service in this reorganization, the directing and socially superior classes must possess social enlightenment. This enlightenment the secondary schools must accordingly endeavor to furnish. To that end Dr. Baumeister urges the introduction of "philosophy" into the last year of the course of study. This philosophy should not be metaphysics, but such a study of psychology and ethics, particularly the last, as may serve as an introduction to the study of social and economic questions; such a study as will prepare the youth who enters at once on his life work, or on the university study of law, medicine, or theology, or the university study of the arts and sciences, to attack the social problems which he is sure to meet, either at once or during his professional study and thereafter, with some previous knowledge of their gravity and complexity, and some power of profiting by any real instruction, whether of lectures or books or experience. Only in this way can the secondary school promote intelligent progress toward that widely diffused general well-being which the social reformer is aiming at. The importance of such considerations in the improvement of American as well as European secondary education it would be difficult to overestimate.

I have touched on the chief points of the editor's introduction to his handbook in order to indicate the spirit which animates the whole enterprise. The editor has undertaken his task *con amore* and with a firm conviction of its necessity and utility.

Ziegler's History of education, Volume I, Part 1—It is only fair to say that the several contributors to the handbook have shown that they share the editor's interest in the undertaking and his earnestness of purpose. As was to be expected, however, all have not been equally successful in carrying out their intentions. Among the most successful contributors is Professor Ziegler. His history of education is excellent. The

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history is expressly limited to the period since the Renaissance, and deals especially with secondary education. This limitation does not, however, prevent the author from giving a valuable introductory sketch dealing with education during the Middle Ages, nor does it interfere with brief appropriate consideration thruout the work of elementary education on the one hand and higher or university education on the other.

Ziegler's history is not merely educational biography, which up to the present time still represents nearly all that we have of the history of education in English. Ziegler's history is, as it should be, that part of the history of civilization which concerns the educational doctrines that grow out of the traditions and contemporary needs of the times of which he writes, and the schools in which these traditions and theories were embodied, together with their influence on their own times and on the evolution of the culture of their immediate future and of to-day. At the same time, the lives and work of individual teachers and of particular schools are treated with sufficient fullness to enable the reader to form a just estimate of their personal influence or immediate usefulness, and to afford guidance and inspiration—or warning—to the modern teacher. The history is not narrowly limited to the history of education in Germany; altho, as is to be expected, educational movements outside of Germany are treated mainly with reference to their influence on German education. The last section of the history deals with contemporary educational reforms, and anyone who has read Ziegler's little book *Die Fragen der Schulreform* will not need to be told that this section of the history has great contemporary interest and value. Indeed, Ziegler's whole history is so clear, comprehensive, and interesting that he deserves the gratitude of every student of the history of education, and particularly of those students who wish to trace the evolution and contemporary influence of educational ideals and practices, and not merely the lives of educational reformers.

Systems of secondary education, Volume I, Part 2—The second part of Volume I represents a large amount of co-

operative endeavor. No less than twenty-six persons have assisted the editor in the exposition of the systems of secondary education as at present organized and administered thruout a considerable portion of the civilized world. It constitutes a thick volume of reference, and is, unquestionably, the most serviceable compendium of information on the organization and administration of contemporary systems of secondary education in print. The reports from the several countries are written either by natives or by Germans who have been long resident in the countries reporting. The only European states missing are Servia, Bulgaria, and Roumania. The German states naturally occupy a conspicuous place in the volume—about one-fourth of the whole book. The description of secondary education in the United States occupies forty-one pages. If I may judge of the value of the whole book by this portion (contributed by Professor Benjamin I. Wheeler of Cornell University, and Professor Charles H. Thurber, editor of the *School review*, Chicago) and by other portions that deal with secondary education in such of the European states as I happen to know something about, I should say that the entire book is as reliable as a brief account can well be, and is, moreover, very interesting.

The general theory of education (*Theoretische Pädagogik*), *Volume II, Part* 1—This subject is expounded at length by Dr. Toischer of Prague and is rather disappointing. The author announces early in his introduction that his standpoint is not that of one who merely investigates the relation of pupil and teacher; that he purposes to consider education also in its broader aspects—as a social force and as a function of society. This is excellent, so far as it goes. But beyond a few incidental references in the next few pages to the social aspects of education the author's treatment is really limited to a detailed general consideration of the instruction and training of children at first in the home—this is rather briefly treated—and in school. He immediately divides his subject into physical, mental, and moral education (*Pflege, Unterricht, Zucht*) and proceeds to discuss each in what is very like the good old way. The style is rather commonplace and

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sometimes heavy. The book may be compared to Bain's *Education as a science*, both on this account and for its occasional pages of decided value. The fact is that a treatment of educational theory is at present sure to be only a compendium of opinions, and as such its value in stimulating thought will depend on the freshness or originality of these opinions, or on the skill with which they are set forth. In neither of these respects can Dr. Toischer's contribution to the *Handbuch* be said to possess conspicuous merit. It is a plodding and sincere endeavor to consider some of the most conspicuous problems of educational theory from the point of view of an enlightened and progressive Herbartian. As such it is interesting, but it is far from being a satisfactory contemporary discussion of the theme with which it deals.

The professional training of secondary-school teachers—The next division of Volume II consists of Dr. Fries's detailed account of the professional training of secondary-school teachers, almost exclusively in Germany. A few pages are devoted to professional training outside of Germany. It is an extremely well arranged and clear account of the training prescribed by the several German states, together with a history of the development of this training up to the present time. Dr. Fries's contribution to the *Handbuch* is written with the conviction that " Every teacher needs in preparation for his vocation, in addition to thoro scholarship, a preliminary training in method which not only does not force his native teaching power into rigid forms, but is the direct means of making him really free from constraint, and his teaching most productive. To this end he must receive guidance and direction from men of acknowledged scholarship, succéssful experience, and excellent personal qualities; men whose whole bearing and conduct, and particularly whose faithful performance of every professional duty inspires confidence and respect."

We have, first, a discussion of the future teacher's university training. Dr. Fries justly insists on a training that insures general scholarship as well as special proficiency in a chosen field, and so guards against superficial knowledge on

the one hand, and pedantic narrowness on the other. This is followed by an account and critical discussion of the examinations that are or might be intended to secure this training; and a further similar discussion of the subsequent professional training of the seminary and the apprentice year. Naturally the crowning portion of Dr. Fries's monograph is the part that deals with the organization and methods of this professional training as at present carried on. The title of this portion is " Experience and criticism "; and in it are passed in review the three plans in vogue thruout Germany; namely, the university seminary, the apprentice year and the provincial seminary, and the gymnasium seminary, or seminary in connection with a gymnasium. What imparts especial value to this discussion is, in the first place, the detailed critical consideration of each phase of professional training with its excellences and defects under each of the three forms of training just mentioned; and, in the second place, the fact that Dr. Fries is himself the director of a seminary in connection with the gymnasium at the Franckesche Stiftungen over which he presides, and hence has repeatedly had to consider, during his long and successful career as a teacher and supervising officer, the problem of professional training for teachers. He accordingly brings to bear on the entire discussion the fruits of a ripened experience. The whole subject is treated in a thoroly judicial spirit. The whole account is, moreover, permeated by the sound scholarship, the clear pedagogical insight, the inspiring earnestness, and the genial spirit of the writer. No portion of the *Handbuch* will be found more suggestive and helpful to teachers of teachers than Fries's contribution. Like Ziegler's history, it deserves to be translated, and so made accessible to every student of secondary and higher education.

Matthias's Praktische pädagogik is a high-grade manual of general schoolroom practice. It would be difficult to find a more interesting and suitable description of the attitude of healthy self-criticism which every teacher and manager of children and youth must acquire if he would aim at permanent growth in efficiency. The whole book is now and then

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enlivened by a sense of humor that is as rare as it is refreshing in pedagogical literature. Matthias's teacher is scholarly, earnest, enthusiastic, firm; all of this teacher's dealings with the pupils are dictated by a conscious, unwavering purpose to help the pupil to help himself, and to win the pupil's confidence and co-operation in every field of endeavor, whether moral or intellectual, thru the influence of a strong but kindly personality. We find him accordingly laying special stress on the personal characteristics of the teacher, and devoting the first tho not the longest division of his book to the teacher's personal qualities. Naturally, he does not undertake to pass in review all the virtues that the teacher should possess nor all the faults he ought to shun. But, as he has already declared in his introduction, he intends to discuss his subject from the point of view of one who wishes to point out some of the mistakes that experience has shown young teachers (and often older teachers too) are prone to make, and which a suitable warning may help them to overcome; and he intends to discuss some of those virtues which no teacher can afford to dispense with, and which by persistent endeavor may be acquired, to some extent at least, by all teachers. The other main divisions of the book treat of method, moral training and discipline, the school and the home. In the chapter on method we have a sensible warning against "too much method," but also a just protest against "methodless procedure." Then follow the usual appropriate considerations bearing on the teacher's preparation for his daily work, the teacher's voice and manner, the art of questioning, the forms of answers, teaching by lectures, reviews, and so on; together with a section, toward the close of the chapter, in which the practical value of the Herbart-Ziller-Stoy formal steps in instruction is asserted, and a judicious use of this scheme is recommended. Matthias warns against being mastered by this scheme, but strongly recommends mastering it with a view to using it when it can be properly employed, and refraining from any attempt to force all teaching into this particular mold. This is good sense.

No portion of Matthias's book shows better the kindly but strong spirit which permeates his whole monograph than the portion dealing with moral training and discipline, and the importance with which this topic is regarded is shown by the fact that nearly half his whole book is devoted to it. Tho the familiar headings are found here, the treatment is fresh and constantly suggestive. After visiting a great many German classrooms during the past winter, I cannot but feel that much good might result if this book could be read carefully by many secondary-school teachers. Matthias objects to military discipline in the school—the most common form, tho often somewhat softened, now in vogue—and would substitute for it equally firm and strenuous insistence on the practice of virtue and the performance of duty, but guided by sympathetic interest rather than by mere authority that constantly has a tendency to become despotic. The warnings and suggestions with which his treatment of the subject abound, based as they are on a rich and varied experience, are excellent. His discussions deserve to be used as sources of guidance and inspiration by all teachers, young and old.

The final section of Matthias's book—a very short one—is devoted to the question of co-operation between the school and the home. In it the author undertakes only a *résumé* of matter already incidentally discussed in connection with other topics. His position is that every good home is a natural co-operating agency with the school, and no special plan for co-operation with such a home is needed. On the other hand, when the home influences are antagonistic to the school influences, the school endeavors to show to parents the reasonableness and the friendly purpose of every requirement, and the justice and kindly spirit that underlie the treatment every pupil receives—and then every teacher takes pains to justify these claims to good sense and kindliness in every detail. The spirit and conduct of the teachers being what it should be, the teacher's attitude is that of one who avoids precipitating a conflict as long as possible; but also of one who, like the physician, is a professional expert, and whose final conclusions must therefore be respected, whether

welcome or unwelcome, whether understood or not. We can hardly claim as yet, in this country, that our secondary-school teachers constitute a body of professional experts; indeed from my own observation I incline to the belief that, in spite of universal high scholarship, it also requires some effort to regard the rank and file of German secondary-school teachers in that light. Nevertheless this claim can be made for most of the principals in Germany, and for a majority of our own principals in this country; and as the responsibility for determining the kind of co-operation between home and school, whatever that co-operation or conflict may be, falls chiefly on the principals, the soundness of Matthias's position will hardly be questioned; especially since he insists strongly that parents have their rights as well as teachers, and that, even when the parents are mistaken, their rights must not be disregarded. The suggestion of professional independence for the teacher like that of the physician is worth reflecting on. Professional training is at present forced on our principals by virtue of their position as directors of educational affairs. In the course of their experience they are compelled to acquire professional training. But most teachers, in the absence of professional training before they begin to teach, remain what they are at the beginning—classroom teachers, whose professional horizons are limited by their classrooms and their subjects. Whatever we might wish to claim in this regard, it is clear that there can be no professional independence for teachers until every teacher takes his vocation seriously enough to make special preparation for it as a profession. Then, and not till then, shall we grow to be a body of professional experts whose conclusions, like those of the physician, shall be final.

Dr. Schimmelpfeng's boarding-school questions—This short essay (*Ueber Internatserziehung*) is disappointing, not because it is not good, so far as it goes, but because there is so little of it. The whole essay occupies but thirty-four pages of the *Handbuch*. The author disclaims any attempt at a general discussion of the subject under consideration, and he accordingly restricts himself narrowly to his experience in his own

school. This makes his account concrete and interesting as far as it goes; but one regrets that the author restricted himself to so narrow a field, and also that he did not see fit to insert a single course of study either of his own school or of some other.

After a brief paragraph on the question of day schools *vs.* boarding schools, in which the question is designedly left open to be determined in each case by circumstances (such as the business or profession of the parents, geographical location of the home, nature of the children), we have a list of the boarding schools, with their attendance, in the several German states. Some of these statistics are twenty years old and hence confessedly unsatisfactory; but the author has evidently been unwilling or unable to revise them. The body of the essay consists of two divisions, covering respectively the organization and the work of the school. In the first section we have a short discussion of the manifold duties of the director of a boarding school, together with the personal characteristics such a director ought to possess or at least to cultivate. Dr. Schimmelpfeng's presentation glows with a calm and strong enthusiasm that is very delightful and that evidently comes from his heart. In this section are also considered the duties of the teachers; the various classes of pupils; the daily allotment of time for work and for recreation; the kind and amount of food provided for pupils, and the general hygiene of the pupils. The author's hearty interest in the work of the boarding school and his firm conviction that it may be made the source of great good to the pupils is exhibited still more clearly in the second section of his essay, in which the work or "inner life" of the school is discussed. He points out the great advantage to the pupil arising from the fact that the teacher's supervision and assistance are not limited to the period of the class exercises, but extend to the pupil's preparation for his daily lessons as well; and to the valuable influence the teachers may exercise over the pupil's private reading. The author intends to include in private reading not merely books read by individual pupils in accordance with the teacher's recommendation, but also

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extra or voluntary study in addition to required work; and finally the reading, on specified evenings, thruout the winter, with the teachers or principals, of some classic, either in the mother tongue or, in the upper classes, in some language in which sufficient progress has been made to enable the pupils to look upon this reading as a pleasure—a serious pleasure, perhaps, but nevertheless a pleasure—rather than as drudgery. The arrangements for making this "private reading" of use to nearly the whole school are thoroly practical and could be employed to great advantage in any boarding school.

The inner life of the school is described with a gradually increasing stress on the exeellent use that can be made of the intimate association of teachers and pupils; and, under direction, of the pupils with each other, for the development of intellectual and moral strength thruout the institution. The author remembers that not only the teachers educate the pupils, but that the pupils educate each other; and among other sensible recommendations he suggests a judicious use of "prefects" or older pupils charged with authority. Not the least suggestive recommendation is that made in the last paragraph, namely, that the newcomers to a boarding-school be received with a simple ceremony that serves to introduce them to the school and to acquaint them with its privileges and at the same time, by exacting of them the simple pledge "to be diligent, obedient, God-fearing, and thankful," to imbue them with a sense of their responsibilities as well as their privileges.

Kotelmann's School Hygiene—Dr. Kotelmann begins his monograph on "school hygiene" with a sketch of the historic development of physical instruction and the gradual evolution of the science of school hygiene in Germany. He refers to the celebrated order of Frederick William IV. of Prussia in 1842, which declared "physical exercise to be a necessary and indispensable phase of the education of young men," and points out that, since the appearance of that order, interest in physical education and in school hygiene has steadily increased, leading naturally to many special in-

vestigations and to the recent numerous works on the subject.

Dr. Kotelmann's monograph is divided into (1) hygiene of buildings and (2) hygiene of the pupils. In the first division we have the usual considerations bearing on the location of the classrooms within the building, lighting, heating, ventilation, and cleaning of buildings, and school furniture, together with a reference to Baginsky's work and Eulenberg and Bach's treatises on school sites, and the details of school buildings; in the second division are discussed the hygiene of the nervous system, the hygiene of the sense organs, in particular of the eye and the ear, the hygiene of the voice and organs of speech, and general physical hygiene of the pupils. References to recent and contemporary literature on the subject are abundant.

The author's treatise is confined to those aspects of the subject which are more or less under the immediate control of the teachers; and he aims to furnish the teacher with the necessary knowledge to enable him to guard and to promote the pupil's normal physical development during his school life. Both the selection of the subject-matter and the treatment in detail make the book useful and interesting. It is a handbook that supplies the essential information that no professional student can afford to dispense with, and its practical discussion will be appreciated by every reader. It may not be out of place to comment here on the extraordinary gulf that exists between theory and practice in respect to certain obvious demands of school hygiene in Germany. So many of the buildings are old, and so badly heated, lighted, ventilated, and cleaned, that one too often comes away from visits to schoolrooms with nearly every physical sense outraged. One wonders that such things can be in a land where so much is said and written against them. On the other hand there are many new school buildings which are, in nearly every respect, models of their class, but, so far as my experience goes, such buildings are far from being the rule thruout Germany. No doubt we shall continue to profit by German theory, but I mistrust that in this respect, as in some other

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educational conditions, we have already outstripped her in practice.

Volumes III and IV on Methods—The final volumes of Dr. Baumeister's *Handbuch* consist of monographs on methods of teaching the several subjects in the secondary-school courses of study. Altho both of these volumes are now complete only one of them has come to hand at this writing. To review these volumes adequately would require as many reviewers as there are subjects discussed—sixteen in all. But any intelligent teacher can easily gain from these monographs a distinct impression of their great theoretical and practical value. An examination of the volume before me, comprising nine of the monographs, shows clearly enough that each writer has brought to bear on his subject characteristic German scholarship and a ripe experience in teaching it. The writers are not compilers of devices. What renders the work of most of them especially valuable is, first, that they show by implication the range and depth of scholarship required for the appropriate teaching of a given subject; and second, that they make clear what they consider the characteristic educational effect—the educational value—which their subjects may be made to yield thru good teaching. The methods recommended are accordingly generally illuminated by clearly conceived and definitely stated *aims*. On this account alone teachers will find these monographs of great value. They constitute an encyclopedia of sound practice. *Aimlessness* and, in this country, the concomitant inadequate scholarship are the most prevalent causes of poor teaching. Mechanical or lifeless imitation of good models, or blind and helpless following of bad ones, cannot long characterize the teacher who knows his subject and works with definite purposes clearly conceived. I am sure that American as well as German teachers will have a hearty welcome for these two volumes—and for Baumeister's entire treatise.

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IV

SENTIMENTALITY IN SCIENCE-TEACHING

In spite of the advances recently made in the quality of text-books and in the facilities for training teachers, the value of the science now taught in our elementary schools is certainly doubtful. Those best fitted to judge would probably say that as soon as methods and tools for instruction have been carefully elaborated, as soon as experience has taught us to tell the wheat from the chaff, nature-study will take a rightful place in the curriculum. Yet the work which is now being done is often so useless that the stoutest supporters of nature-study ought to be always exercising their critical sense in reforming it. Its present foes, also, ought in justice to examine the situation carefully, so that they may not deny the value of the work in general, because of some vice in the selection of material or the methods of presentation. It is the purpose of the present article, as its title shows, to discuss one such vice, perhaps a rather important one.

A teacher said to me recently: "I do not try to teach the children *facts* about the animals and plants. I don't care how much they *know* about them if they only *love* them."

Another teacher said in substance, "What I want is to teach the children to care for and preserve all living things, and to feel the beauty and meaning of nature, to love nature." Doubtless every reader of this page has often encountered among teachers and books on nature-study an attitude something like that of these quotations. It seems very fine and moral. The pretense of ennobling the artistic and ethical nature of the child, of raising his curiosity to the height of an affectionate interest, is very plausible. One thinks of the young generation going forth imbued with a love of nature and a joy in her beauties and a reverence for her Creator, and dreams of a near future when all boys and girls shall be poets

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in mind if not in words. One pictures the sweet disposition of the little girl who loves even the daisy so that she will not willfully mar its life by picking it and applauds this attempt to soften child-nature thru the flowers. One thinks of the ardent interest the boy must have in the birds since he has learned not to steal their eggs and feels sure that of such boys will not only the kingdom of heaven, but also the kingdom of future scientists be made.

Nature-study, when aiming this way, is a thing easily to grow enthusiastic over; a thing concerning which all of us, especially young women, can easily feel fine emotions. But after all this aim is not a worthy one. The teacher who aims chiefly at leading her scholars to feel affectionately toward plants and animals is not aiming at a justifiable end. It is not really an æsthetic or moral, but rather a sentimental aim. Her spirit is not the healthy spirit of real goodness or beauty, but is rather the sickly spirit of a sentimental conventionality.

In the first place, there is no reason why a child should care for and preserve plants except for the sake of himself or other people. The plant itself has no feelings which are gratified by an untroubled existence, no pains which care may assuage. The reason why the child should care for it is simply that he may give some conscious being happiness by means of its sight or smell or taste. The plant itself is no more an object for love than is the dirt it grows in. When its existence or prosperity conflicts with the welfare of any human creature there cannot, of course, be the slightest hesitation in sacrificing it. The child who should refuse to pick a flower to give to some sick girl, because forsooth he loved the flower and wanted to be good to it, would certainly be thought a monstrosity, but toward creating just such monsters this style of nature-study tends. And logically the child who leaves untouched a blossom which she herself wishes is equally an ethical monster. Let the child then tend the plants because his fellows like to see them. Let plant-study teach him to love his fellows, if you insist on its teaching him any moral lesson. Let us remember that it is not only not wrong for the child not to love the plants and

flowers, it is really wrong for him to love them, for it is unreasonable and therefore mischievous idolatry.

The question of inculcating a love for animals is a different question because animals do, in at least most cases, feel pleasure and pain. They do possess consciousness, and on the nature of this consciousness depends the nature of our duties toward them. Concerning it a few general conclusions may be stated. Animals do not have continuous *self-conscious* lives, and a painless death is therefore never worse than a matter of indifference to them. Under many circumstances it may be a boon. Animals do not have sentiments in the human sense, and are therefore utterly unaffected by the feelings we may have toward them. Animals' minds are not streams of thought at all comparable to our own, and therefore all emotions and conduct toward them based on the idea that they are, come from a wrong motive and are likely to be wrong emotions and acts. In general, we have a right to use animals for our own purposes, so long as we do not make them live uncomfortable lives.

Now the feeling toward animals which the sentimental view of nature-teaching tries to arouse in children is far from this. Its first and greatest commandment is, "Thou shalt not kill," or concretely, "Thou must not step on beetles, stick butterflies on corks," etc. It aims to make children love animals like people and so extends to the case of animals the feeling which we all have against shortening the life-probation of a self-conscious personality. This, we have seen, is irrational. Equally irrational are all the other lines of conduct to which the child is led by the emotion of love toward animals.

It is true that the sentimentalists support their view by more sensible pretensions than any supposed claims of the animals to our affection: by the pretension, namely, that the child who learns to love animals will thereby love his fellows better, that kindness to plants and animals goes with human kindness. Even if this were so, one could easily show that their sort of teaching was an indirect and inferior way of producing human sympathy and love. But it is not so. The

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truth of the opposite stands out clearly from the philanthropic lives of scientists and physicians who have systematically made plants and animals their prey, who have habitually looked on them as things to be used for the service of men. Moreover, history has made for us a convincing experiment in the shape of the believers in transmigration. The followers of this doctrine have been systematically taught to respect and care for all animals. Their children have been trained to this attitude thruout every hour of life. Have these Hindoos been more loving and merciful and gentle and sympathetic to their fellows than other nations of similar civilization and circumstances? On the contrary, right beside this universal kind treatment of animals has flourished a caste system pre-eminent in its cruelty to human kind. The man who is merciful to his beast is not thereby a merciful man.

Equally false is the claim that by teaching children to love living things we are increasing the number and quality of future scientists. It is only to the vain imagination of a sentimentalist that tender affection for animals and plants seems a likely road to a scientific interest in them. It *is* a road to a certain wishy-washy dilettantism, which, I fancy, is the sort of scientific investigation in which these teachers are most interested. But it is not and has not been the road to real science, to the discoveries of which our century is so justly proud. The impulses to scientific investigation have, of course, been of many different sorts, but of those which appear in childhood the chief has always been the intellectual curiosity to know things, to discover their parts, how they work and what they do. Not the girl who dearly loves her doll, but the one who cuts it open to see its insides, is likely to be an investigator of human physiology. The boy who collects moths, who steals birds' eggs, who pokes the unlucky crab over onto its back and in fascination watches his uncomfortable efforts to right himself, who takes his toy animals apart to put them together again, is nearer the scientific pathway than the noble product of sentimental nature-study who loves the worms and cares for the dear plants. St. Francis is

no patron saint for science or science-teachers. Curiosity, not affection, is the symptom of and *anlage* for the scientific temperament. It is not even true that the sort of love our nature-study begets will secure the habit of scientific observation. It may secure the personifying observation of poets and parable-makers, that is all. Science and scientific observation are not the results of an emotional or ethical, but of a purely intellectual, interest in things. For their purposes the most valuable quality in the child-mind is the pure desire to know. How little food or encouragement or exercise this desire gets from the sentimental teacher of nature-facts is well known to any habitual visitor of schools or kindergartens.

One more claim deserves our attention, the claim that the kind of teaching we have been attacking is yet a worthy kind because it arouses the love for nature in general, the feeling for nature found in the so-called nature poets. We have already admitted that it may do something like this, and have therefore two questions to answer. Is it desirable to develop in children this love of nature in a lump, so to speak? If so, is nature-study the best means for doing it?

The feeling is desirable as an innocent æsthetic emotion, as a means to healthy pleasure. It brings in its train outdoor life and sympathy with much beautiful literature. Yet it does not rank very high in the ethical scale. It is not a sign of either great virtue or great wisdom, and often goes with a sickly sort of mind. It is not comparable to the intellectual interest in human nature which we may call insight, or the emotional interest in human nature which we mean by sympathy. It is desirable for teachers to arouse it only if they arouse the proper species of it. We are far from wishing a race of exaggerated nature-lovers of the Ruskin type or of morbid nature-lovers of the type of the heroine of the lately famous *Ships that pass in the night*. As the sole or predominant attitude of a human being toward nature, this loving interest is an atrocity. Nature is quite as truly " red in tooth and claw," quite as truly an unchanging machine, quite as truly a master against whom our revolt is beginning to succeed, quite as truly a mere collection of things to be turned

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to the service of our conscious ends. It is above all, on any reasonable ground, a thing to *study, to know about, to see thro,* and one can readily show that the emotionally indifferent attitude of the scientific observer is ethically a far higher attitude than the loving interest of the poet.

Our second question meets with a shorter answer. The loving interest of the poet is an æsthetic emotion, belongs to the field of æsthetic culture, and is best encouraged by certain sorts of literature and art. Let us render unto Cæsar the things that are Cæsar's and leave to science-teaching its own aim—to foster the intellectual interests and reveal the truth about matters of fact.

Besides these failures to accomplish what they pretend, the sentimentalists may fairly be accused of doing mischief in at least two ways: In the first place they arouse in children an attitude which prevents successful nature-study in the high-school and upper grammar-school grades. Young children like to do things to anything—to pull apart, handle, and fuss with things.[1] If parents and teachers treated them wisely they would be ready, even eager, at twelve or thirteen to cut up plants and animals to see how they were made, to collect and mount specimens, and to do painless experiments with living animals. But thanks to the home and school training, high-school teachers find that their scholars, especially the girls, are unwilling to do such work or even to see it done. The mothers of the last generation ought not, I suppose, to be blamed for their prejudices, but the teacher who willfully aids and abets them in making the children unfit to study their own bodies is worthy of all the blame that is rightfully attached to misleading superstition and bigotry. It would be comical, if it were not disheartening, to think of all these teachers of supposed science eagerly doing their best to hamper and almost render impossible the teaching of a great part of science in later grades. High-school teachers are com-

[1] I disregard the question of possible instinctive repugnance to certain animals (*e. g.*, spiders, bugs, reptiles, etc.) because there is as yet no proof that there are such instinctive fears and because, even if there are, they can in normal cases be easily overcome if education counteracts instead of re-enforcing them.

pelled to teach zoölogy and physiology without demonstrations or experiments, to teach in a fashion which would not be tolerated in any college or medical school, and yet we expect their teaching to be entertaining and enlightening. Squeamishness taught in the home as a conventionality we shall for a while have to endure, but squeamishness taught in the school as a noble emotion is unbearable. One feels like suggesting to the tender-hearted sentimentalists that large numbers of the dear fishes are starving for lack of food, and that, as a noble example of the love they would have us feel toward all living creatures, they might sacrifice their carnal bodies.

My second charge against this sort of nature-study is that it encourages in the child a vicious lack of discrimination. In his recent book Dr. Oppenheim says of some of the kindergarten stories and games that they "look as if they were expressly made for the purpose of keeping the little one from a knowledge of reality, of true relations. Instead of making the ascent from preparatory existence to real life as plain, gradual, and safe as possible, they evidently seek to encumber it, to make it steep and inaccessible. . . Impersonation of qualities, occupations, various characters, animals, plants, and many animate and inanimate things is the main feature. And they are all without distinction treated on the same level. . . In most of these story-games there is commonly a startling lack of discrimination, of healthful relations expressed in a healthy way." It is with a similar vice that I charge our sentimental nature-teaching. Birds, insects, snails, and plants are all put on the same level and that too on a level wrong for any of them. They are all credited with life in the sense of human life, and the child is taught to regard them all alike. Now it is safe to say that any teaching which lets the child avoid making finer and finer distinctions, which allows him to remain with generalities, is bad teaching. And it is safe to say that any teaching which of set purpose lets the child replace correct differentiations by a false assimilation is criminal.

So, as friends to the study of science wherever possible, and

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as foes to misleading pseudo-science and pseudo-ethics wherever taught, we ought to protest against the attitude I have tried to describe. If real science is not fit for children, let them go without it, but let nothing be taught under its banner which is not worthy of the name. The word nature-study is used to cover a multitude of sins, one of which we have perhaps exposed. I, for one, hope the fate of science in the common schools may not be decided until, if I may be allowed a tautology, we have tried scientific science scientifically taught.

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V

A COURSE OF READING FOR CHILDREN

A few preliminary statements are necessary to a full understanding of the following study.

The study is based upon a three-years' experience with a course for home reading by the pupils in the public schools of Utica, N. Y. There are three courses in reading: one for the regular reading exercises during school hours; one for teachers to read to pupils; and one for the pupils to read out of school. It is only the last of these courses that is considered in this article.

Substantially the following list of books was placed before the schools for guidance, September, 1895. It has been slightly revised and increased each year since. Pupils have been urged, not required, to read at least two books each during second and third grades, and four books each during subsequent grades. After reading a book from the course the pupil reports it to his teacher. The teacher discusses the book with the pupil, asking questions about it, making suggestions for further reading, etc. The pupil is then credited with the reading of this book. Only books thus read and discussed are counted in the following table. Sometimes children hand to the teacher a written account or review of the book read. In some schools pupils keep in a small book a record of their reading, often adding notes upon individual books read.

The principal sources of supply for the books are the public library, which has placed upon its shelves from five to twenty-five copies of each book on our list; school libraries, especially in the outlying schools, in each of which the school board has placed a copy of such books on the list as are in greatest demand; children's libraries in several schools, collected and maintained by the children and their friends; and home libraries, where parents in many cases have been guided

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in purchasing books for their children by this recommended list. It has been a common sight to see a teacher with quite a crowd of her pupils in the public library, after school or on a Saturday, aiding them in the selection of books.

Principals have made an extended and detailed report upon the work each year. From these reports have come many helpful suggestions for improvement, touching incidents to show the good being done, and statistics that show really marvelous results. A brief summary of a few of these statistics is here given. There is not space to give any of those numerous individual instances that best indicate what is really being accomplished.

Year.	*Pupils in grades affected by plan.*	*Books read and discussed with teacher.*	*Pupils who read none.*
1895–96 . . .	4240	12,639	758
1896–97 . . .	4553	26,037	516
1897–98 . . .	5122	36,219	442

As may be seen in the above table, the number of pupils as yet untouched by this influence is small and is constantly growing smaller. At the other extreme we are finding some pupils who are running into "literary dissipation." With this latter class teachers are now working to lessen the amount of reading and to secure more thoro study of what is read.

Among the other items annually reported by the principals have been: "book of list for each grade best liked by pupils"; "book of list for each grade considered most desirable in opinion of the teachers"; and, "books on suggested lists that seem undesirable, and why." Compilations of these answers have been of great value to us in our annual revision of the lists. Many teachers and superintendents have asked for the publication of the results of these investigations. I regret that the value of these results cannot be made available without the publication of the entire list of books. This makes quite an extended article, but I am assured by several superintendents that it will be helpful. I therefore give the compilation for two years—the second and third of our use of the plan. It includes reports from over five thousand pupils in eighteen schools.

AUTHOR	TITLE	*Schools reading it*	1896–97				1897–98			
			Schools reporting it to be:				*Schools reporting it to be:*			
			Best liked by pupils	*Most desirable in opinion of teacher*	*Too difficult*	*Uninteresting to pupils*	*Best liked by pupils*	*Most desirable in opinion of teacher*	*Too difficult*	*Uninteresting to pupils*
	Grade 2									
Burt	Little nature studies	18	3	2	0	0	1	2		
May	Little Prudy	18	3	0			2	0		
Bass	Animal life	18	2	3			1	7		
Johonnot	Friends in feather and fur	18	2	4			2	3		
Mulock	Adventures of a brownie	18	4	1			6	2		
Richard	Joyous story of Toto	18	6	4	1		4	1	1	
Mulock	Little lame prince	18	0	0	1		0	1	1	
	Grade 3									
Pratt	Stories of colonial children	18	7	10			7	13		
Abbott	Learning about common things	18	0	2		1	0	2	0	1
Jackson	Letters from a cat	18	3	1			3	2		
Burt	Stories from classic writers	18	0	0	2	1	0	0	1	
Richard	Four feet, two feet, and no feet	18	4	2			3	1		1
Carroll	Alice in wonderland	18	3	0			5	0		
Brine	Bessie and Bee	18	1	0			0	0		
	Grade 4—B									
Burnett	Editha's burglar	16	11	1			10	2		
Cox	Brownies; their book	16	1	0			3	0		
Dodge	When life is young	16	0	0			0	0		
Johonnot	Neighbors with wings and fins	16	0	0			0	2		1
Kirby	Corner cupboard	16	0	4			0	8		
Scudder	Bodleys on wheels	16	0	0			1	1		
Wesselhöft	Sparrow the tramp	16	0	0			1	0		
Morley	Seed babies	16	0	1			0	0		
	Grade 4—A									
Winslow	Fairy geography	16	0	3	1	1	0	0	1	
Otis	Signal boys of '75	16	—	1			1	3		
Olcott	Eight cousins	16	(1)	(3)[2]			1	4		
Andrews	Story mother nature told her children	16	2	6			1	4		
Gilman	The kingdom of coins	16	1	1			2	1		1
Burnett	Little Saint Elizabeth	16	8	0			9	2		
Otis	Boys of Fort Schuyler	16	—	—[1]			3	3		
	Grade 5—B									
Butterworth	Zig-zag journey to the Occident	15	0	1			0	2		
Watson	The Boston tea party	15	3	7			3	6		
Burnett	Little Lord Fauntleroy	15	10	1			7	1		
Uncle Lawrence	In search of a son	15	0	0			0	0		
Hale	Little flower people	15	0	0			0	0	1	1
Hawthorne	Grandfather's chair	15	1	1	2		0	2		
Otis	Toby Tyler	15	(12)	(1)[2]			6	1		
	Grade 5—A									
Hawthorne	Biographical stories	15	0	0			0	2		1

Author	Title	Schools reading it	1896–97				1897–98			
			Schools reporting it to be:				Schools reporting it to be:			
			Best liked by pupils	Most desirable in opinion of teacher	Too difficult	Uninteresting to pupils	Best liked by pupils	Most desirable in opinion of teacher	Too difficult	Uninteresting to pupils
	Grade 5—A, Cont.									
Kingston	On the banks of the Amazon	15	1	5	1		0	3		
Wood	My back yard zoo	15	0	1			0	2		
Ballard	Among the moths and butterflies	15	0	0	1	1	0	0	2	
Eggleston	Hoosier schoolboy	15	11	1			12	2		
McDonald	A double story	15	0	0			0	0		
DeFoe	Robinson Crusoe	15	(4)	(3)[4]			1	2		
Dana	Plants and their children	15	0	0			0	3	1	1
	Grade 6—B									
Huntington	Stories of remarkable women	15	0	0			0	0		
Blaisdell	Stories of the Civil War	15	0	4			2	2		
Coffin	Boys of '61	15	2	4			3	4		
Andrews	Each and all	15	0	1			1	0		
Butterworth	Zig-zag journeys	15	2	7			2	5		
McCook	Tenants of an old farm	15	0	0	1	1	0	0		1
Faraday	Chemical history of a candle	15	0	0	1		0	0		2
Stockton	Fanciful tales	15	0	0			2	0		
Alcott	Little women	15	(0)	(1)[5]			9	3		
	Grade 6—A									
Eggleston	Brant and Red Jacket	15	1	1			2	3		
Franklin	Autobiography	15	0	0	1		0	1		
Knox	Boy travelers	15	1	6			0	9		
Wiggin	Birds' Christmas carol	15	12	2			10	0		
Buckley	Fairy land of science	15	0	0			0	0		1
Bamford	Up and down the brooks	15	0	0			0	0		
Blaikie	How to get strong	15	0	1			0	0		
Dickens	Little Nell	15	1	0			3	1		
Lanier	Boys' King Arthur	15	0	0	1		0	0		
	Grade 7—B									
Kipling	Jungle book	7	1	0			0	0		
Buckley	Life and her children	7	0	0			0	0		
Greeley	Three years in Arctic service	7	0	0	1		0	0		
Henty	Beric the Briton	7	0	0			0	0		
Stowe	Uncle Tom's cabin	7	4	2			3	2		
Alden	Moral pirates	7	2	0			4	1		
Abbott	Paul Jones	7	0	1			0	0		
	Grade 7—A									
Dana	Two years before the mast	4	0	0			0	0		
Smiles	Round the world, by a boy	4	0	1			0	0		
Dodge	Hans Brinker	4	3	0			3	2		
Henty	St. George for England	4	0	0			0	0		
Barr	Young people of Shakspere's dramas	4	0	1			0	0	1	
Brooks	Historic girls	4	0	0			0	0		
Alcott (L. M.)	Autobiography	4	0	0			0	0		
	Grade 8—B									
Porter	Scottish chiefs	4	0	0		1	0	0		

Author	Title	Schools reading it	1896–97				1897–98			
			Schools reporting it to be:				Schools reporting it to be:			
			Best liked by pupils	Most desirable in opinion of teacher	Too difficult	Uninteresting to pupils	Best liked by pupils	Most desirable in opinion of teacher	Too difficult	Uninteresting to pupils
	Grade 8—B, Cont.									
Hall	Adrift in the ice fields	4	0	0			0	0		
Heilprin	Earth and its story	4	0	0			0	0		
Parton	Captains of industry	4	0	0			0	0		
Bunyan	Pilgrim's progress	4	2	0			0	0		
Lowell	Jason's quest	4	0	0			1	0		
Hughes	Tom Brown at Rugby	4	1	0			1	1		
Knox	Boy travelers	4	0	2			0	0		
Eggleston	Montezuma	4	0	0			0	0		
	Grade 8—A									
Scudder	George Washington	4	0	2			1	1		
Henty	Under Drake's flag	4	2	0			0	1		
Trowbridge	Three scouts	4	1	0			1	0		
Ball	Starland	4	0	0			0	0		
Nordhoff	Man-of-War life	4	0	0			0	0		
Stockton	Personally conducted	4	0	0			0	0		
Scott	Ivanhoe	4	0	0			0	0		
Whitney	Faith Gartney's girlhood	4	0	0			1	0		
Dodge	Land of pluck	4	–	–[1]			0	0		
	Grade 9—B									
Brooks	Abraham Lincoln	3	1	1			1	2		
Henty	With Wolfe in Canada	3	0	0			1	0		
Butterworth	Zig-zag journeys in the White City	3	0	0			0	0		
Shaler	Story of our continent	3	0	0			0	1		
Buckley	Winners in life's race	3	0	0			0	0		
Custer	Boots and saddles	3	0	0			0	0		
Irving	Alhambra	3	0	0			0	0		
Eliot	Silas Marner	3	0	0			0	0		
Dickens	David Copperfield	3	1	0			1	0		
Souvestre	Attic philosopher	3	–	–[1]			0	0		
	Grade 9—A									
Greene	Coal and the coal mines	3	0	0			0	0		
Henty	By right of conquest	3	0	0			1	0		
Merriam	Birds through an opera glass	3	0	0			0	0		
Cooper	The spy	3	0	0			0	1		
Brooks	Century book for young Americans	3	0	0			0	1		
Taylor	Views afoot	3	0	0			0	0		
Irving	Mahomet	3	0	0			0	0		
Winthrop	John Brent	3	0	0			0	0		
Wallace	Ben Hur	3	1	1			0	0		
Santine	Picciola	3	–	–[1]			0	0		

(1) Not in list for 1896–97.
(2) In group for 5th grade A, in list of 1896–97.
(3) In group for 6th grade B, in list of 1896–97.
(4) In group for 4th grade A, in list of 1896–97.
(5) In group for 5th grade B, in list of 1896–97.

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VI

EDUCATIONAL VALUE OF BIOGRAPHY

In the songs of victory or of the chase, chanted by the primitive bard to his fellow tribesmen, as they dance and feast around the glowing camp fire, the first note of history is sounded. These early stories are biographical, relating as they do the great feats of some first strong man. History, we thus see, is "the outcome of a primitive impulse to tell the story of noteworthy deeds."[1] Its roots are firmly imbedded in biography. "Man alone is interesting to man," says Goethe. In consequence of this insatiable interest of man in man, this innate love of personalities, this "consciousness of kind," the thrilling tales of the early chronicles, ballads, sagas, and epics are but hero stories of great chiefs and leaders. Authentic, as individual life histories, they certainly are not, but genuine as essential elements in group life, they certainly are to both singer and hearers. Moreover, they act as a most powerful agent in the formation of tribe spirit and character, arousing tribal passions of pride, hatred, anger, or revenge. Everything in these days partakes of the marvelous and mysterious. The power of superstition is supreme. After death the great man of the tribe is idealized, and with the passing of years he develops into the type admired by the particular people among whom he once lived. This type in the course of centuries becomes farther and farther removed from its source, until we can scarcely discover its origin. Who is Arthur, Siegfried, or Roland but the ideal man of his respective age and land? So too, our earliest sculptures and inscriptions are purely biographical.

The history of early societies is, no doubt, the history of the great man. "Society is founded on hero-worship," says Carlyle.[2] But as man progresses and as social life becomes

[1] Genung, *The practical elements of rhetoric* (Boston, 1893), p. 375.
[2] *The hero as divinity*, p. 11.

more complex and perfect in organization, we miss the lesson of the ages if we confine ourselves to the great man's story. Owing to the inborn interest of man in man and the consequent ease of awakening in him sympathy for the deeds of other men, arose the great-man theory of history. This is the only view taken of history until we come to Montesquieu, who may justly be called one of the founders of the modern sciences of politics and history. With his "epoch-making principle," [3] "that history is shaped not by single units or men but by a general course of affairs, a trend of ideas, the causes of which may be analyzed and understood by the human reason," [4] he gives impulse to an intellectual movement which culminates in the modern scientific treatment of history. During the eighteenth century the great man fell into ill repute. Bored by the great man, Voltaire said of Jesus, "I pray you never let me hear that man's name again." [5] But, about the middle of our century, an effort was made once more to enthrone the hero with all his former glory, in men's minds. "Carlyle, with his Gospel of Hero-Worship, sought to revive the sway of personality by inspiring anew reverence and admiration for the exceptional man." [6] We cannot agree with him that, "Universal history, the history of what man has accomplished in this world, is at bottom the history of the great men who have worked here," [7] or that, "All dignities and ranks on which human association rests are what we may call a heroarchy (government of heroes)—or a hierarchy, for it is sacred enough withal." [8] Nor again, with Emerson, when he says, "There is properly no history, only biography." [9] Yet we cannot deny Carlyle's statement that admiration for one higher than himself is the vivifying influence in man's life. And we must acknowledge that the

[3] Flint, *Historical philosophy in France, Belgium, and Switzerland*, p. 103.
[4] Barnes, *Studies in historical method*, p. 124.
[5] Emerson, *Uses of great men*, p. 31 (in Representative Men).
[6] Ross, *Social control*, ix. Personality, *Am. Jour. Soc.*, 242–43.
[7] *The hero as divinity*, p. 1.
[8] *The hero as divinity* p. 11.
[9] *Essay on history*, p. 13.

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Chinese Mencius expressed a truth when he declared a sage to be the instructor of a hundred ages.

Undoubtedly biography is not *all* of history. What it once was it is no more. In the beginning, as we have seen, it is impossible to make a distinction between biography and history, but with the development of the race according to Spencer's law, from the homogeneous to the heterogeneous, biography becomes differentiated from history. It still forms an essential part of it, but by no means covers the whole field.

From what has been said we see that the study of the lives of great men has a sanction in human nature itself and that an intimate bond of relationship exists between biography and history.

Now let us try to define this relationship. What is the function of the great man in the story of the world? The vital connection between the past and the present is the great man. "The past gives us a treasure of invention and product; the present a workman to whom invention and product are but stuff and tools. From this union of treasure and genius history springs." [10] The great man is the result of the accumulated thought of ages and the cause of further development. In him are centralized the forces of the civilization which culminates in his period. He is a product of the evolution of the society of whose revolution he is oftentimes the cause. He exhibits the character and spirit of his time in miniature, is therefore a type. These type lives become, as Mr. Barnes says, instruments of society for social progress, and are consequently of great historical value. The function of the great man is to explain the age and of the age to explain the man. Thus the study of the one is incomplete without that of the other. The one is the complement of the other.

In looking backward we can discover three distinct attitudes which the world has held toward the great man, corresponding to the different stages of social development. First

[10] Barnes, *Studies in historical method*, p. 42. (Boston: D. C. Heath & Co., 1896.)

of all we find the great man looked upon as a gift of the gods, nay, as a god himself, endowed always with supernatural power and attributes. This view was natural during the infancy of society, and we find it taken in all the early records. The world next looks upon the exceptional man as a special agent raised up by Divine Providence at a certain time for the accomplishment of a certain purpose. This theory is maintained by the earliest historical writers, the Jewish chroniclers, Herodotus, Livy, Plutarch, and Tacitus. It continues to direct the thought of most biographers even up to to-day.[11] We are last of all coming to consider the man of genius as the product of his antecedents and of his environment. The new movement in history started by the French and German schools at the end of the last century and the beginning of this has been closely followed by a change of attitude toward biography. The *Zeitgeist* of the nineteenth century has totally changed our way of looking at the lives of great men. Under its influence the meaning of the word biography has broadened. Instead of denoting, as formerly, merely a careful and exact record of the incidents in a man's life it now includes a study of his work and influence.

This leads us to a consideration of the kinds of biography. We can discern three methods of treatment in biographical writings, and according to the method used we may classify the life. First, there is the historically exact method, which gives a truthful account of the events in the life portrayed. This style we may call the *Narrative Biography*. Second, there is the literary or picturesque method, which gives a picture whose completeness and charm are due often not to fact but to fancy. This kind of biography we may term *Literary Biography*. And lastly, we discover the critical, interpretative, and sociological method of treatment. In a biography written after this method the man stands as a type of his age; his actions are shown to be largely the result of his *milieu;* in short, he is treated as a social unit rather than as an individual. Let us call this the *Sociological Biography*.[12]

[11] It is Gladstone's point of view.

[12] De Quincey thus classifies history: (1) the purely narrative, whose business

Without doubt the first and last of this classification are the most important, historically considered.

The narrative biography is of historical importance because it gives, in fact almost demands, a contemporary view of the character in question. We have the testimony of an eyewitness oftentimes and feel the consequent force of the fact. As we read the past becomes present. Our hero lives again. We follow him as companion to the chase, in search of adventure; we talk with him, sit at table with him, live with him. Thru the magic of the writer the Then becomes Now, the There, Here. This narrative style of biography is perhaps the most effective means of arousing historical sympathy.

The sociological biography is of value, on the contrary, because it gives us just what the first cannot: the view of the great man in the perspective. It must be written long after the time of the hero whose life it depicts, as an interval of years is required between the actor and interpreter for a proper critical review of the age to which the great man belongs.

In the first style, the interpretations and applications are left to the reader. In the last, they are forced upon him; and herein we discern a danger, for the biographer is too often apt to distort facts to suit his preconceived notions, to curtail or embellish to suit general principles.

The narrative biography is well exemplified in Boswell's famous *Life of Johnson*. Johnson himself thought that no one could write a real life who had not lived in social intercourse with the one of whom he wrote. From this point of view, his devoted follower was most excellently qualified for his task. Macaulay thus eulogizes Boswell: "Homer is not more decidedly the first of heroic poets, Shakspere is not more decidedly the first of dramatists, Demosthenes is not more decidedly the first of orators than Boswell is the first of

it is to give a naked, unadorned exposition of public events; (2) the scenical, whose function is to make the past present; and (3) the philosophic, which views the course of events in the relation of cause and effect, ascertains the forces underlying results, and seeks to discover the general laws governing the progress of the world's civilization (*Essay on Charlemagne*, works, vol. vi, p. 138).

biographers. He has no second. He has distanced all competitors so decidedly that it is not worth while to mention them." Of this life Carlyle says: "We have in English but one good biography—Boswell's *Johnson*." Other biographies which may be classed under this same heading are, Trevelyan's *Life of Macaulay*, full of most interesting personal reminiscences, and Purcell's *Life of Cardinal Manning*. From 1886 to 1890 the author of the latter biography lived with Cardinal Manning, imbibing from the living source materials for his work. The Cardinal really tells his own story, so full are the two volumes of letters, diaries, and reminiscences.

The second kind, or literary, biography is almost always an expression of hero-worship, pure and simple. The literary biographer aims to present striking scenes and dramatic situations; he appeals strongly to the imagination and feelings; his narration teems with eloquence and passion. He is dominated by his artistic sense and cannot resist adding here or omitting there for the sake of harmony, proportion, or grace. This style of biography is a species of portrait-painting in which likeness to the original is *not* the desideratum. More attention is paid to the brilliancy of tone, richness of tints, and effectiveness of the picture than to exact truth. In fact the presentation is always artistic. The literary man, when writing biography, usually chooses only those characters personally attractive to himself—whom he idealizes more or less. When treating of men who are distasteful to him he goes to the opposite extreme and depreciates and perverts, sometimes to an astonishing degree. The artistic temperament, moreover, is not the one primarily fit for the exhaustive, painstaking research necessary to the historian.

Foremost among biographers of the literary class stand Carlyle, Macaulay, Voltaire, and Irving. Carlyle, tho possessing the historical sense, or the power of making the past alive, as perhaps none before or since, is always biased by his own nature. His *Frederick the Great* is a fine sample of extreme hero-worship. While Carlyle's biographies furnish us with entertaining and interesting reading matter, they fail to

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present exact truths. Macaulay's biographies exhibit the very traits which he censures in others. He forces upon the reader his own attitude of mind, and discusses thoroly but one side of a character. As Saintsbury says, "The heights and depths of a subject Macaulay never gave—perhaps he never saw them." [13] In all the work of both Macaulay and Carlyle the personality of the author is strikingly in evidence. It is this, indeed, which gives individuality to their styles and makes their productions so remarkably fascinating. Voltaire's biographical works are by no means his best. His attitude of mind is anything but the judicial one. He is inaccurate in detail, and thro all he writes one can discern the narrow views of the eighteenth-century pessimist. Irving, in his *Lives*, strives always after the picturesque and romantic. He is deficient in research, but incomparable in artistic finish. His *Columbus* is one of the noteworthy gems of hero-worship literature. Irving's treatment of Mahomet is characteristic of his method of dealing with all his heroes. It is emphatically individualistic. Little attention is paid to antecedent conditions; the actions of his hero are never viewed in a social light; his life is never studied as that of a social unit,—a member of the social organism,—but always as that of an individual. Parton's biographies may also be classed under this heading. He is an excellent story-teller, knows how to weave together anecdote and fact, to outline a sketch with a few bold strokes. He possesses the historic sense to quite a remarkable degree.

The first impulse to the sociological biography was given when Buckle, who revolted against Carlyle's hero-theory of history, boldly announced that great men have no influence on the civilization of the world. He looked upon the man of genius as a disturbing force in the world's history and as merely the result of the age to which he belongs. He attributed all progress to environment and ignored utterly the law of heredity. He gave all credit to "external advantage" and made no allowance for "internal power." Tho Buckle

[13] Saintsbury, *History of nineteenth century literature*. New York: Macmillan Company, 1896, p. 229.

thus gives us but half truths; tho he forgets that the great man, a product, to be sure, of his *milieu*, is responsible in great measure for what comes after; tho he thus fails to discover the action and reaction, constant and rhythmic, between the ages and the great man; to him we must nevertheless give the credit of emphasizing the principles enunciated a hundred years before by Montesquieu and of directing the course of thought on the subject of biography into its present channel.

Pre-eminent among sociological and critical interpreters of the lives of men stands Sainte-Beuve, "the perfect critic." In his sketches of Mirabeau, Montaigne, Mme. Necker, Buffon, Marie Antoinette, and all the others contained in *Causeries du Lundi*, he gives us a perfect picture of French genius and social life. He interprets French civilization to the world. Justin Winsor's *Christopher Columbus* is a good instance of the sociological method of treatment, tho in his effort to undo the evil work of the hero-worshipers, Winsor goes too far in the other direction. He utterly shatters our old notion of the glorious hero; he belittles Columbus, making him merely the creature of circumstance, the instrument of his time for the execution of an idea not original with him but often formulated in the ages gone before. He forgets that a man should be judged by his special mission. Human nature is unequal and excellence in one line often means deterioration in another. "The greater the man, the more impossible to connect in a mathematical diagram the different phases of his conduct,"[14] says Sloane. Columbus was great because the aim of his life was accomplished—thru him a great thought was realized. His pertinacity of purpose, his tenacity in clinging to his idea thru all the struggles he was forced to undergo, give him, without doubt, a claim to be classed among the world's elect. Another excellent example of sociological biography is Masson's *Life of Milton*. In Sloane's *Napoleon Bonaparte—A history*, we discover in advance, from the title, the author's point of view.

[14] Sloane, *Napoleon Bonaparte—a history*. New York: Cent. Pub. Co., 1896, vol. iv. p. 223.

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He considers Napoleon as a typical man of his time in almost every sphere of action. He treats him as the type individual, the type citizen, the type soldier, the type despot, and the type idealist in politics, and accounts for his existence in view of the relation of the past, immediate and remote, to Napoleon's own present. This view, made in the perspective, also traces the development of many of our modern institutions for whose existence we are indebted to Napoleon. Nor does Sloane forget to give credit to the innate power and genius of the man.

Mr. Fiske gives Freeman the first rank among the historians of to-day who have made scientific use of the results gained from the modern investigation of social phenomena by practical application of these results to the interpretation of past ages. He gives him credit for having raised the study of history to a higher level than it has ever before reached. "He is as ardent a hero-worshiper as Carlyle," says Fiske, "only vastly more intelligent." We might add that the name of Mr. Fiske also should be classed with that of Mr. Freeman for elevating history to its present high status thro use of the modern method of studying the evolution of society.

Of course literary worth is not wanting in the best instances of either the narrative or the sociological biography—in fact it must be present in any style of writing to give it high rank. But in the narrative and the sociological biography literary value is made subordinate to the chief aim in view, which is, in the one case, faithful record of fact, in the other, analysis and interpretation of action. In the purely literary biography, on the contrary, literary excellence and artistic effect are of paramount importance.

As before stated, the kinds of biography of greatest value to the student of history are the narrative and the sociological—the first for the historical sympathy it must provoke, and the last for the large insight it gives into the meanings of the movements of the ages. The literary or hero-worship style has, no doubt, its place. Its mission is to interest and inspire. But such biographies must be taken knowingly—

must be swallowed whole rather than carefully chewed and digested.

From the foregoing the following applications may be made for the use of biography as an aid in the teaching of history.

1. The study of history should be begun by biographical sketches.

2. The style of biography to be used by young children should be the narrative, drawn whenever possible from contemporary sources.

3. The literary biography should be used discreetly. It is a good instrument for arousing interest, but should always be corrected by exact historical narrative.

4. The critical or sociological biography should be reserved for the later period when the pupil has developed the power to sift and distinguish for himself.

5. The study of biography should never be abandoned, but should be carried right along after history proper is begun. For the lives of great men, besides making the dead past live and inciting the young to noble emulation, throw strong light on those questions regarding the relation of the man to the group and the influence of individual endeavor upon the destiny of societies which so greatly occupy the mature minds of to-day.

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VII

STUDY OF EDUCATION AT THE UNIVERSITY OF TEXAS

The failure of Mexico to provide for education in the state of Coahuila and Texas was one of the crimes for which she was punished in the revolution of 1836. Remembering one of the causes of the revolution, the fathers of the Republic of Texas planned a system of public instruction, with a university at its head. The university, mindful of its obligation to the common schools, maintains a school of education, wherein those who are to teach the youth of the State may be equipped for their high and responsible calling.

The first important duty of the school of education is to give instruction concerning what has already been achieved in education. Here, as in other fields, true wisdom lies in teaching first what is already known. The advance made in education by this generation is slight, when compared with the great inheritance which it receives. None but the hopelessly bumptious can believe that labors confined to a few decades can surpass those of centuries. He who cultivates in the minds of his students the belief that this old world has been for ages educationally blind and deaf and dumb, that it has been waiting for him and his disciples to open its eyes, unstop its ears, and loose its tongue; that there has been nothing good in the past; that the future is to be made secure, however, thru the brilliant discoveries of some few educational experts of the present day, not only exposes himself to the contempt of thinking men, but also, as far as he is able, hinders educational progress.

Education, in order to be rational, must be founded upon psychology—"psychologized," as Pestalozzi expressed it. Many practical truths in psychology have been discovered and generally accepted. It is much better to know the psychology that has already been evolved by the race than to be-

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come acquainted with that which one can evolve from his own inner consciousness. The law of interest, for example, has been upheld by leaders in education all along the ages, and it is now reasonably well established. Current educational thought does not object to this Herbartian statement: "Interest is direct and does not arise from emulation or hope of reward other than that which the subject itself affords; it is not prompted by selfishness, or fear, or ambition." In harmony with Herbart's view is that of Quick, who says: "Indeed, the mind without sympathy or interest is like the sea-anemone when the tide is down, an unlovely thing, closed against external influences, enduring existence as best it can. But let it find itself in a more congenial element, and it opens out at once, shows altogether unexpected capacities, and eagerly assimilates all the proper food that comes within its reach. Our school-teaching is often little better than an attempt to get sea-anemones to flourish on dry land."

The psychology already developed has furnished insight respecting this matter of interest, and has contributed, directly and indirectly, to the solution of every other educational problem. It seems superfluous, then, to add that university instruction in education should carefully consider the study given all along the centuries to this important subject.

A second educational question which has been determined with reasonable thoroness and accuracy is that of discipline, or management. No modern university school of education is worthy of existence, if it does not teach clearly and forcibly the doctrine that the teacher is a leader, not a driver; that he is to develop a self-governing being, not a being in continual need of control and restraint; that he is to rule by reasonableness and sympathy, not by authority and brutality. Even the army, the navy, the reform schools, and the penitentiaries are controlled in such a way as to appeal to the higher motives of man; and, if severity can be excluded with safety from the management of these institutions, with how much greater reason can it be banished from the institution in which children are to be educated. There is no general truth more clearly taught in the history of the world than that

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man's spirit seeks to be free; that it grows, and blossoms, and bears fruit only when it is surrounded by an atmosphere of liberty. This truth is supported by the testimony of all the great leaders in education. There are some things, surely, that should be considered settled, even in the educational world, and every modern school of education should teach that this fundamental doctrine of school management has passed beyond the realm of debate.

In matters pertaining to the method of teaching also, the university school of education should profit by the labors of the past. All progress must have its source in the achievements of former times. Tho we live in the days of the mountebank, who is advertising, like a patent-medicine vender, a new and a royal road in education; yet the great underlying truths pertaining to the practice of education have been known to the world since the days of the ancient Greeks. The mind of man has remained essentially the same thru all the ages; and if one does not wish to be a charlatan, he examines with patience and with a receptive spirit the teachings that have come down to us from the master-teachers of old. In a very significant sense there can never be a new education. That there will be improvement in method is not to be doubted; but the method finally adopted will simply be an approach toward the perfection of the method already known.

The second great duty of a university school of education is to make some contribution to the profession of teaching. Man fails to rise to the real dignity of manhood when he rests satisfied with the knowledge already acquired. Questions that relate to empirical psychology, child-study, and related subjects, offer tempting fields of work. The neglected history of education affords almost unlimited opportunities for original investigation. The best history of education yet written in any language is to be found in the volumes of Henry Barnard's *Journal of education*. Outside of his *Journal* and a few meager and unsatisfactory text-books, the English language has little literature bearing upon this important subject—a subject which the university school of education

should emphasize by contributions resulting from original studies.

Another contribution which the university school of education should be expected to make is to elevate and dignify the office of the teacher. No greater service to the teachers and the people can be rendered by the university than that of strengthening and honoring the profession that gives its life that others may live.

A third contribution of the university school of education should embrace serious, sympathetic effort looking toward the improvement of men and women already actively engaged in teaching. If the school of education is to exercise leadership in the educational system, it must show its worthiness of the honor by a rigid adherence to the law of service announced by the greatest of all teachers when he said, "Let him that would become greatest among you become your servant."

Another, and perhaps the greatest, contribution of the university school of education is to increase the power of the public-school idea. The doctrine that education is for all, is fundamental to educational progress. While it is generally admitted that it is the right and the duty of the state to educate all its youth, yet occasionally, even now, one hears a cry, as if coming from the dark ages, such as the following uttered some months ago thru the pages of an American magazine: "Linked closely with many other very serious educational mistakes, and from many points of view by far the most profoundly serious of them all, is that curious fancy which is almost universal among the people, that education, in itself and for all human beings, is a good and thoroly desirable possession. So axiomatic is this held to be that its principle has been incorporated into the constitutions of many of our States. There is probably in our whole system to-day no principle so fundamentally untrue as this, and there is certainly none that is fraught with so much social and political peril for the future. For education means ambition, and ambition means discontent." There is no occasion to be alarmed by these undemocratic views; yet it is not unwise to call attention to such educational aberrations, and to say that

the mind conceiving them does not understand the nature and necessities of republican government, and has an extremely "curious fancy" concerning the purpose and principles of modern education. A little knowledge is sometimes a dangerous thing, and he who speaks upon educational topics should first separate himself from that large company in which is found a certain Texas teacher, who once answered a question in education by saying: "Teaching from the known to the unknown is a very simple matter; you first teach what you know, and then you teach what you don't know." The advice of the modern humorist, "It is better not to know so many things that are not so," is especially applicable to those philosophers whose wisdom with respect to education has been gotten, not by studying what education *is*, but by studying what education is *not*.

Above every other doctrine the American university must place the doctrine of free schools, that is to say, the doctrine of democracy. Above everything else the university should teach the rights of man, among which is the right to such instruction as is necessary to guarantee him a reasonable degree of success and happiness in the work of the world. Every educational force in a republican government should minister to the advancement of the whole people. How great is the influence of an institution which trains young men and women for the work of teaching is shown in this extract taken from one of the memorable addresses delivered by Horace Mann: "I believe that pedagogical schools are a new instrumentality in the advancement of the race. I believe that without them free schools themselves would be shorn of their strength and their healing power, and become at length mere charity schools, and thus die out in fact and in form. Neither the art of printing, nor the trial by jury, nor the free press, nor free suffrage can long exist to any beneficial or salutary purpose without schools for the training of teachers. For if the character of qualifications of teachers be allowed to degenerate, the free schools will be pauper schools, and pauper schools will produce pauper souls, and the free press will become a false and licentious press, and ignorant voters

will become venal voters, and an oligarchy of profligate and flagitious men will govern the world."

This brief exposition of the creed of the school of education in the University of Texas is expressed, by way of summary, in this sentence, which is the motto Quick chose from Froebel for *Educational reformers:* "The duty of each generation is to gather up the inheritance from the past, and thus to serve the present and prepare better things for the future." Unswerving loyalty to this creed will result in adding honor to the school of education and in strengthening educational ideals in the Lone Star State.

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VIII

DISCUSSIONS

THE USE OF HIGHER EDUCATION

Dr. Harris has contributed to the September number of the EDUCATIONAL REVIEW an article of very great interest, but not wholly convincing in some of its arguments. A dreadful picture is drawn of the condition of mind of those who do not receive the higher education; yet we are assured that the only methods which lead to correct ideas and sound judgments are not applicable to immature students. From which it results that under existing conditions the great mass of the people cannot be expected to think aright, and our democratic form of government is a great mistake.

The only child-mind I can claim to have known much about was my own. As I reflect upon the past, I do not find that my early intellectual powers were different at all in *kind* from those I now possess. They differed only in degree, and not so very much in that, if the fruits of experience be subtracted from the present total. My little son of five years, again, reasons acutely enough; I believe his reasoning powers are as great in comparison with his perceptive ability as in an adult, always remembering his limited experience. If it is found that children in school possess minced information only, it is small wonder, for it is mostly served out to them in that condition.

In short, I believe that Dr. Harris has hit upon an evil which is genuine enough, and serious enough; but that the fault is by no means in the children nor in the nature of things, but entirely in our schemes of elementary and secondary education.

I wholly agree that the mental condition of the mass of our school-taught population is deplorable; I insist, quite as much as Dr. Harris, on the value of the methods of the higher education; but I do not believe there is any necessity or excuse for postponing those methods until that stage in educa-

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tion when ninety-nine per cent. of the pupils have dropped out.

It is the common experience of those who have to teach scientific subjects that quite young pupils, who have never been to school, are in many respects brighter than the graduates of the high schools. They are prepared to study realities, and do not have to readjust their minds after a long course of disjointed fragments supplied from books. But how different would it be, if the research method were universal in the primary and secondary schools! Let those who have tried it say whether this is impossible.

One more word. We are all as children in research, and those who have studied deeply for many years are the humblest, the least ready to claim wisdom. It has always been my experience that the oldest and most eminent naturalists are the most modest—I will even say, the most childlike. I think the most we can claim for the average college or university graduate is that he may be in the way to acquire wisdom; but that he has had anything resembling a complete education, or even a symmetrical one, I deny. He has, along with his learning, usually acquired a number of venerable prejudices, from which, as a rule, he can by no means free himself. The picture of his mind given by Dr. Harris on p. 157 illustrates this; he is conservative, and actually thinks, I suppose (*vide* last sentence of the paragraph) that men are thrown out of work by the introduction of machines, because of their commonplace intellects!

T. D. A. Cockerell

Mesilla Park,
New Mexico

Professor Cockerell's objection to my argument is worth considering, but I do not find myself able to give complete assent to the remedy he proposes. I endeavored to point out the differences between elementary, secondary, and higher education and to show that those differences are founded in real differences in ability to think or to make mental combinations. One may call this difference one of degree only if he chooses, but the difference between a mind that can make only small combinations and a mind that can make large

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combinations or syntheses is so great as to appear to be one of quality or kind and not merely of degree, because the synthesis which one makes becomes at once a tool of thought, and the person who has made it gradually recasts all of his observations and comes to see them in the light of his new synthesis. Take the observation of nature since the Darwinian idea has been adopted. I am sure that Mr. Cockerell will admit that the old observations of organic life, made without an insight into evolution, all seem very incomplete and inadequate. What would the child's observations upon a pump, made before he had studied hydraulics, be worth as compared with his observations afterward? In fact one's view of the world or of the part of the world which he observes changes from time to time according to the school studies pursued, whether elementary, secondary, or higher. In this view I cannot see the pertinency of Professor Cockerell's remedy, which is this: Introduce the methods of secondary and higher education into the elementary school and the kindergarten, and you will make that sort of education productive of as great thinking powers as do our high schools and colleges at present. In other words introduce analytical geometry and the calculus, the philosophy of history and comparative philology, Kant's *Critique of pure reason*, and Spinoza's *Ethics* into the elementary school, and the child of that age will then see things not in fragments, but he will see them in the light of the highest unities of science and philosophy.

WILLIAM T. HARRIS

BUREAU OF EDUCATION,
WASHINGTON, D. C.

NO NATIONAL UNIVERSITY AT WASHINGTON

I have no quarrel with the idea of a national university; that may be all right. But I do enter my protest against having such an institution located at Washington. For, to me, there could no greater calamity befall the flower of the youth of this country—and they are the ones that ought to fill such a school—than to have them spend from four to six years of the formation period of their lives at the national

capital. And I will tell why. That town is filled to the point of rankness with the political driftwood of the nation. I don't go back on the representatives of our Government, who must perforce live there—the President, Cabinet, department folks, Congress, and all; I have nothing against them. Take them as a whole, and they will size up fairly well with an equal bulk of people almost anywhere. But it is the people that surround all these that I am afraid of, and these make up the general bulk of Washington population. These are the people whose every thought, word, and deed are grounded in one word, namely, " pull." They have lost faith in everybody and in everything. They do not believe that there is, anywhere, such a thing as genuine merit and sterling integrity that can live on what it really *is*, but they base all their hopes on earth, and any that they may have of heaven, on " pull." We all know this. We all have friends there whom we have seen go away down in the scale of manhood because of the influence of their environment.

Now it seems to me that it would be a great wrong deliberately to put our young men and women where they would come in contact with this baleful influence while they were in school. Their boarding houses would be kept by the like of these; their boarding-house companions would be of the same kind; in a word, they would meet it at every turn during the entire period of their stay in the city. Can anyone doubt what the influence on them would be? My notion is that they would leave their school life filled to the point of saturation with the idea of the omnipotence of " pull "; filled so full of it that there would be no room for anything else, either in their heads or their hearts. And to have a great stream of such young men and women poured out, continually, over this country, I cannot believe to be for the best.

I have no objection to such a university being located in New York, for business is wholesome to the soul, and New York is business. New York has a word, too, and that word is " push," and there is all the difference between heaven and hell, so far as the formation of character is concerned, between these two words. " Push " has for its basis virility and sterling worth. " Pull " is bedded in sycophancy, duplicity,

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and a perpetual pretending that is first cousin to dirty lying. The air of New York (or any big business city—Boston, Philadelphia, Chicago, St. Louis, New Orleans) is bracing. What one breathes in Washington, outside the government buildings, is a poisonous gas. There is no business in Washington. There is beggary, fawning, treachery, and any-thing-to-get-to-the-fore. And I would not have our young men and women immersed in this sort of thing. They would be if they went to school there. They could not help it.

I hope that what I have written will not be misunderstood. I am not pessimistic. Nor do I lack faith in our officials at Washington. It is only their environment that I am afraid of, and this we all know to be bad.

WILLIAM HAWLEY SMITH

PEORIA, ILL.

IX

REVIEWS

The rational spelling-book; in two parts—By J. M. RICE. New York: American Book Company, 1898. 80 p., 128 p.; 15 cents, 20 cents.

Mr. J. M. Rice, the author of the articles in the *Forum* published a few years ago, which created a wide interest at the time of their publication, has written a spelling-book having the above title. The book is based upon the results obtained by actual tests in spelling of more than 33,000 pupils, living in several large cities of this country. After collecting and tabulating the spelling papers, which took months, the author then began a critical study of the material for the purpose of ascertaining, if possible, whether spelling should be an incidental study, or an independent study, requiring definite preparation; or, to put the statement in another form, whether, in the common schools of the United States, there is a legitimate place for the spelling-book.

The answer to this question, so far as the author is concerned, may be taken affirmatively. There had been for years an issue on this point; one side contending that spelling should be taught incidentally, that is to say, without the use of a spelling-book, and the other side had been designated by the rather uneuphonious title of the "spelling-book fiends." The swing for several years had been away from the spelling-book idea, and now the return is quite as pronounced. A numerous clientage never sympathized with the attempt so earnestly made to banish the spellers and to make a huge bonfire of them in the interest of humanity. At any rate spelling-books were retained in many schools, despite the fact that the subject was proscribed in many localities. This was the situation when Dr. Rice proposed to ascertain whether the children in city schools where no spelling-books were used spelled as well as they did in cities where books were used, and the spelling lessons were learned systematically. In giv-

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ing tests he chose common words, but the results were somewhat contradictory, because the plan pursued was not unlike the "prayer gauge" proposed by Professor Tyndall a quarter of a century ago. A better test, no doubt, would have been to give pupils the words they had been accustomed to use (and the list should have covered from 2000 to 4000 words in common use, instead of a few hundred), and then to repeat the lists with successive classes during three or four years.

America has been prolific in the production of spelling-books; in fact, there has never been a time when this country lacked a good supply, and, no doubt, the "old blue-back" had more to do in settling our somewhat erratic spelling on a tolerably solid basis than all other influences combined. Noah Webster unconsciously struck a rhythmic movement in the arrangement of the words in nearly all the lessons of his spelling-book, and one whose significance educators are just beginning to appreciate; but it remained for the physicists to discover that all movement is rhythmic, and to give it a deeper meaning as they advanced in scientific accuracy. This explains, in a large measure, why the "old blue-back," with its short sentences of lofty import, has been so popular with the people of the United States.

The author of the *Rational spelling-book* says that his book is "to teach spelling pure and simple, designed for use in all the grades or years of school work." Part I is designed to take the learner thru three years' work in spelling, and Part II from the fourth year thru the eighth year. Part I contains nearly 1800 common words, and Part II about 4700, making a total of 6500.

To fix the spelling of each word firmly in the mind, four lessons are given, and then the fifth is a review of the most difficult words in the preceding four lessons, and this idea is carried out thru the eight grades, and at the end of each year's course there is a general review of "difficult words," so that the theory of the book is spell and review, so far as the pure spelling and remembering the words are involved. As a help to their meaning, nearly all the words are used in short sentences from the first thru the fifth year. These

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sentences the pupils are to read. The characteristic features of the book are expressed as follows:

"1. The careful grading of the work in accordance with the natural growth of the child's comprehension; the words selected for each successive year being on a somewhat more mature mental plane.

"2. The precedence given to common words.

"3. The small number of words compared with the ground covered.

"4. The provision made for thoro drill, by means of constant reviews."

A large percentage of the words were selected with reference to their use in the ordinary affairs of life, and judged of from this standpoint, they are well chosen. A careful examination of the list reveals the fact, also, that many words usually inserted in spelling-books are so easily spelled that it is not worth while to waste time in learning them.

The total number of lessons in the book is slightly in excess of four hundred, so that, including the words the pupil would not be likely to misspell, combined with those he is to be drilled upon, would give him the mastery of from 8000 to 10,000 words at the close of the ward-school course—so far as the mere spelling is concerned. That is, the average pupil would be sure of spelling correctly the number of words mentioned.

A pertinent inquiry at this point is, how do children learn to spell? An answer to this question will reveal, to a considerable extent, what a spelling-book should contain, and upon what scheme the words should be arranged and the order of their arrangement. Children learn to spell by one or all the methods herein enumerated.

1. By ear, or sound; they hear a word spelled, and they remember it just as they learn the words of a song, or any other incident. They remember even to the intonations of the voice used in spelling the word, and this species of learning to spell is continually going on with some children when they attend school.

2. Others learn from seeing the words, the order in which the letters stand. They learn words as objects by their form.

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Such as learn this way exclusively see distinctly and picture forms correctly.

3. Others again learn slowly by having to write the words, letter by letter, till they are ingrained in the brain cells and finger movements. This class requires much practice in writing or drawing the words, and in oral spelling. They are the slow ones.

4. A fourth class learn the words or spell them orally. Some pupils combine two of these methods; others again, three of them; and a large number employ all the methods; *i. e.*, the ear, the eye, the voice, the hand are all called into service, the one re-enforcing all the others, and *vice versa*, till it may be said that the vocal organs and the fingers spell automatically. To pronounce words correctly, oral spelling and pronunciation are absolutely necessary, and to get the proper pronunciation, the system employed in some schools of having the pupil, when spelling a word, if more than one syllable, pronounce each syllable separately, and then uniting each syllable with the preceding syllable, or syllable and pronouncing, is founded upon a physiological as well as a psychological process, and those who condemn it are forced to work to repress what the child unconsciously seeks to do as a means of helping himself.

Reverting again to the spelling-book under discussion, it may be asked, has the present work embodied all that should appear in a text-book that a child ought to know after passing thru our graded schools? We believe that the book would have been strengthened by indicating the pronunciation of more words than the author saw fit to do. Special attention would thus have been drawn to the words of difficult pronunciation as they occurred in the lessons, and this would in no wise interfere with the lists as they now occur, and probably would have rendered their repetition unnecessary. It would have been a more beneficial exercise, if, instead of writing sentences to illustrate the use of words thru the five grades beginning with the first, the words in each lesson had been woven into a literary unity or story.

This would have been a fine opportunity to teach a species of composition that has not hitherto received attention under

definite form in this country, and it would not detract in the least from the general plan of the work. Unrelated, independent sentences are not always interesting reading, even about very common things. It is much more difficult to take twenty-four words and weave them into a connected paragraph than it is to write twenty-four independent, unrelated sentences, each beginning with a capital letter and ending with a period or a question mark.

This book will serve a good purpose at this time, because it marks a departure in its plan and scope as distinguished from all other text-books on this subject. It is the only book that bases its claims on strictly psychological and useful principles, rather than upon the mere huddling of words into groups to be learned. Whether the author has hit the keynotes in spelling will be determined later on. At any rate, he is to be congratulated in that he has struck out on a new line.

The book is well printed, and every page is in clear and distinct type.

JAMES M. GREENWOOD

SUPERINTENDENT OF SCHOOLS,
KANSAS CITY, MO.

Phonics and reading—By C. C. VAN LIEW, Ph. D., Superintendent of Training Department, State. Normal School, Los Angeles, Cal., and MISS AMELIA F. LUCAS, Professor of Reading, Illinois State Normal University, Normal, Ill. Public School Publishing Company, Bloomington, Ill., 1897. 53 p. 50 cents.

This book, tho a brief treatise, contains matters so pointedly and tersely put that it covers the essential elements of one of the important phases of the mechanics of reading and speaking. The authors inform us that it is the outgrowth of some years of co-operative work in the Illinois State Normal University. It is written for "the use of teachers and of students in normal and in high schools." Its aim is "to furnish a more available and scientific basis for the study and teaching of the elementary sounds of the English language than has hitherto appeared," and "to suggest to teachers of reading, literature, and language what the authors deem to be the most desirable means and devices of securing a more beautiful oral speech in their pupils."

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In pursuance of this aim, sections on the following topics are set forth in a clear, succinct, methodic, and attractive form: The organs of speech; the consonants; the vowels and diphthongs; on lists of pronunciation; on diacritical markings; on the relation of phonics to expression in reading; and on the relations of phonics to the teaching of reading. The different sections are rich with directions, graphic descriptions, numerous tables, and with ingenious and most helpful diagrams showing the vocal organs in various typical positions.

It is refreshing to find a book of this nature that does not tend in its advice and suggestions toward too great a separation of abstract formal drills from inspiring and directing content. "The effects of drill are only wholesome when the drill act is in vital touch with the pupil's effort to read or speak with some thought-purpose." The motive for the study of pronunciation is to be found in the conception of adequate expression. Pupils should be led to feel how the neglect of phonic elements mars the force and beauty of a passage. It is thought that the best training in phonics will be secured in the practice in which the pupil tries to set forth the "full value of the sound-forms the artist has chosen to clothe his thought in." Work under the influence of an author's thought and feeling produces not only a higher interest and devotion, but also leads to a better training in phonics than can be had from drills on abstracted lists. Habits in pronunciation should be habits in pronouncing something besides words.

The authors evidently do not share the very unwise yet common fear of the imitative element in reading; they have faith in good models. "New ideals must often be set up in the mind of the pupil, and the desire must be created to change the old slovenly habits of enunciation and pronunciation for a phonetically beautiful, refined, and appropriate speech."

The last section is particularly strong. Most teachers will read it as a new message. It is hoped they will fathom its real import. The educational bearing of the "language environment" of pupils on their school work and its signifi-

cance on method have never been to my knowledge so clearly and forcefully put as in the closing pages of this choice book. It is, in a word, a strong, direct plea for a higher and clearer vocal culture on the part of teachers and parents, and for a more extended critical use of the voice and of speech in the processes of instruction. In both the home and the school children should have opportunities to hear well-told stories and to listen to a high order of reading as one of the first steps in a methodic training of their powers to read and speak with "beauty, force, and rhythm of sound that make for literary effect." The teacher and parent ought to become forceful factors in the "language environment" of the child to mold its speech-forms phonetically, grammatically, and rhetorically.

L. H. GALBREATH

TEACHERS COLLEGE,
COLUMBIA UNIVERSITY

L'enseignement intégral—Par ALEXIS BERTRAND, correspondant de l'Institut, professeur à l'Université de Lyon. Paris: Félix Alcan, 1898. 313 p. 5 fr.

M. Bertrand's book is a contribution, from a more than usually constructive point of view, to the discussion of the secondary-school curriculum. He has in view a secondary training that shall be more closely related to the elementary school course and to life than is now the case. Greek and Latin, therefore, are to be relegated to the rear, and a curriculum substituted that rests upon the carefully ordered study of the sciences. Science is interpreted in a very broad and humane way, and the author is tremendously in earnest.

He fails, however, to understand the necessity of studying what Dr. Harris has happily called the embryology of our existing civilization, and so entirely misses the point of the argument for the study of Greek and Latin. As to most of his practical suggestions, it may be said that it grows increasingly wearisome to find the flood of new books in French, German, and English which prove conclusively that something is impossible that the best schools of America have been successfully accomplishing for nearly a generation.

N. M. B.

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EDITORIAL

Schools and Politics in Chicago

Just at present Chicago has displaced New York as the center of the most interesting developments in public education. Mayor Harrison's board of politicians has been engaged in an attempt to override Superintendent Andrews in the appointment of principals and teachers, and as Mr. Andrews stood up stoutly for his rights and responsibilities a glorious shindy was the result. The *Times-Herald* is authority for this typical instance of log-rolling:

> An instance of what Dr. Andrews is trying to do and how friendship was used in the matter of appointments occurred recently. A woman teacher wanted to be a night-school principal. An examination was held for candidates for the principalships, so that Dr. Andrews could choose from those successful. Before the examination this teacher called on Dr. Andrews and told him of her ambition. Several trustees also called on him. Dr. Andrews suggested that the teacher take the examination, but for some reason the teacher did not take kindly to the suggestion.
>
> Dr. Andrews submitted his list of nominations later to the school management committee. Against Dr. Andrews's strongest protest Trustee Sexton named this teacher, who did not take the examination. Trustees Brennan, Schwab, Sherwood, Keating, and Mrs. O'Keeffe voted with Trustee Sexton to recommend the teacher without a recommendation from Dr. Andrews. When the matter came before the board, however, Dr. Andrews's recommendations for principals of evening grammar schools were adopted.

A little later a committee not only nominated two principals of evening high schools against Mr. Andrews's protest, but the chairman of the committee, a woman, actually struck out of Mr. Andrews's report transmitting the names the sentence in which he stated that two of the names were upon the list against his protest and solely by order of the committee. This astonishing performance was denounced by Mr. Andrews before the board of education, and the member who falsified the document had the temerity and the bad judgment to defend her utterly indefensible action.

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The friction continued to increase until early in December, when Mr. Andrews threatened to resign and, according to one account, did write a letter of resignation. If so, his purpose became known, and before his letter was opened, the members of the board who had been playing politics were brought to their senses and surrendered to Mr. Andrews's entirely just and proper demands. As a result there was no resignation.

It is worth recording that more than one of the possibilities mentioned in this REVIEW for September last have come to pass. Mr. Andrews *has* disappointed the politicians who elected him, he *is* rising to the height of his great opportunity, and he *is* making an independent and aggressive superintendent. As a result the men who elected him have been bitterly opposing him, while those who voted for Mr. Lane are his cordial supporters.

Mr. Andrews has won in this struggle and has become a figure of national importance as a representative of honest and non-political school administration. Repentance at this late day will avail little to Chicago's board of education, and the city ought to turn with gratitude to the commission of which President Harper is chairman and accept with joy and thanksgiving its plan for a modern, scientific system of school administration that will turn the political traders and schemers out in the cold and keep them there.

Meanwhile it is reported on good authority that the recent appointees to the board were pledged, at the time of appointment, to vote for the displacement of Colonel Parker next spring. Publicity, however, is apt to prevent the consummation of a political plot of this sort, and we shall not believe that Chicago will permit such a blot upon its name and reputation until the deed is done.

Resignation of Superintendent Search of Holyoke

A bomb has burst in another quarter. A few weeks ago Superintendent Search of Holyoke, Mass., announced his intention of resigning his office at the close of the school year. His intention was expressed in a vigorous and outspoken open

letter to the citizens of Holyoke which must have made their cheeks tingle with shame. Some passages from this letter will bear quoting:

The superintendent has stood uncompromisingly against the encroachment of politics on the schools. No one, unless in the chair, can imagine the tremendous pressure which has been exerted on this office. The following illustrations will answer: A certain scandalous sheet had the practice of reproducing without authority the advertisements given by the various departments of the city government to other papers, and of then presenting bills for the same, trusting that the heads of the departments would honor such bills rather than be blackmailed. The superintendent of schools refused to approve a bill of this kind. The very next week this paper began its abuse, and I am told it has not since ceased. Another illustration: Within two months of my appointment as superintendent of schools, I was informed one day by a manufacturer of Boston, that he had been approached by a man (then an alderman of Holyoke) who offered on compensation of five hundred dollars to influence the coming purchase of furniture for the new high school. This was in 1896. The enterprising official certainly wanted to have the building equipped in time.

Another illustration: For one year and a half there has been delay in furnishing means for the construction of the laboratories in the new high school, largely because there has been "nothing in it." During this time it has been intimated by a certain party that the money could be forthcoming, if the contract could go to the right man.

Still another: For more than two years the Nonotuck Street school has been overwhelmingly crowded. Some months since the school committee and the board of public works united in the selection of an acceptable site. Notwithstanding the great need of the city, including the overcrowding of the main building, and the confinement of two hundred children in tenements dangerous for school occupancy and which, for such purpose, should be condemned by the board of health, all relief stands to-day dependent on a political barter for the construction of a sewer of private interest.

The second cause for the storm which has been gathering around the superintendent's head is: The appointment of teachers has been based on merit and not on political pull. No one without experience in this particular field can appreciate the tremendous pressure which has been exerted on the superintendent of schools for the appointment of certain persons as teachers. The fact that there have been nearly six hundred applicants during this past year, and more available, does not seem to make any difference with these persons who feel that they have sole claim on every open position, without regard for comparative merit, or the wish to pursue. The superintendent has dared to contest the claims of certain individuals that not even the power of the school committee could disturb them in their positions, and that the city owed them a living irrespective of fitness for the responsible work of teaching. Certain teachers were not nominated for reappointment, in two or three instances for reasons which would not stand the light of public discussion. Rather than permit to reach the public print

matters which would be of questionable value to the boys and girls of our schools, the superintendent has endeavored to answer misrepresentations by a dignified silence, believing that the people would have good sense enough to rely on the man to whom had been intrusted the care of the schools and who has been in a position to examine the fuller merits of respective cases. These dismissed teachers, not all, but certain ones, have been untiring in their efforts to discolor the truth and to poison the public mind. Many articles over fictitious signatures have appeared in public print. These designing persons, or their friends, have circulated many false reports. Many threatening letters have been sent to this office, sometimes several fictitious signatures being traceable to the same person. The following, addressed to the superintendent and received thru the mail one year ago, is a fair sample:

"Reinstate all the teachers dropped or expect the same treatment, January 1. Holyoke will not tolerate such cruelty. If you do not at once comply with this request, you will be ripped up by the press.

"P. S. The feeling against you is bitter.

"A MILL OWNER."

This "Jack the Ripper" has appeared in other letters, some with other signatures, in the public print. It is simply astounding how any community has permitted itself to be misled by these designing persons, whose subsequent procedure has demonstrated their unfitness for responsible positions in the schools.

All this is not in a new and half-developed community; it is in Massachusetts. If only one-half of what Mr. Search states were true, it would prove that in the Old Bay State, the home of Horace Mann, the precious interests of the children of at least one prosperous, thriving community are given over to the care of barbarians and political traders. Every brave man who speaks out and denounces these abuses in detail and so as not to be misunderstood, is a hero and an active agent in hastening the day of retribution and of better things.

The Consulting Psychologist

It will be remembered that at the Washington meeting of the National Council of Education Professor Royce of Harvard University read a paper on "The new psychology and the consulting psychologist" that excited much interest. This paper is now accessible in printed form in the volume of *Proceedings* of the National Educational Association, and ought to have the careful attention of the superintendents of schools in New York, Chicago, Philadelphia, St. Louis, Baltimore,

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Boston, San Francisco, Cleveland, Cincinnati, Buffalo, Newark, New Orleans, Washington, and other cities of similar size.

Professor Royce's argument ends with the practical proposal that in the large cities, and in course of time in other places as well, there shall be a member of the staff of the superintendent of schools who is by training and occupation a consulting psychologist. Professor Royce's conception of such an officer is this:

> He should be a well-equipped, modern, experimental psychologist, with a thoro university training, with skill as a laboratory investigator, but, after he once accepts his office, with the responsibilities and duties of a decidedly practical man. He should be well versed in what our better institutions have to offer in the way of the general study of the art of education. He shall also, if possible, have had himself some experience as a practical teacher. But he shall not, on the other hand, be a professor of pedagogy [education ?]. He shall not be responsible for teaching psychology to college classes, or to anybody else, excepting so far as the spirit moves him to discuss his science with the teachers of his city. He shall, indeed, consult, but he shall not be regarded as anybody's final and authoritative adviser, infallible or otherwise. If possible, he shall never be called "professor." He shall have no authority over the organization of schools or the determination of school methods. But this shall be his office and his responsibility, namely: to find out, so far as that may be possible, and with a minimum of interference with the ordinary work of any school, whatever it is possible and worth while for the teacher and the trained psychologist together to know concerning the mental states and processes present in the children of the schools of his city. In other words, his official task shall be simply investigation and report upon those facts concerning the school children of his city which are at once of a psychological character and of practical interest.

Professor Royce instances fatigue, good and bad spelling, good and bad memory, mental effects of physical exercise, psychological relation of manual training to other parts of school work, increase of skill from the use of this or that method of training in arithmetic or reading, psychological relations of various methods of discipline, and the like, as topics of a practical character which have also much theoretical interest, and which the consulting psychologist might well take up at once. Teachers, if left to themselves, are not sufficiently expert psychologists to make a successful study of these facts for themselves. The laboratory investi-

gations, on the other hand, are usually of so theoretical a character that their results fail to move the teacher or to shape his practice. The consulting psychologist, working with the teacher and in the schoolroom, would bridge the gap and unite theory and practice in what now seems a hopelessly distant ideal.

We wish very much that some or all of the superintendents we have named would act on Professor Royce's suggestion and note carefully the results. We are of opinion that they would prove to be practically helpful far beyond ordinary expectation. Harvard, Columbia, Chicago, and other universities are sending out every year well-trained men who could be secured for these posts. A moderate salary, say fifteen hundred or two thousand dollars, would be sufficient, at first, to attract excellent men and well-trained investigators. The experiment is worth making, and there may well be a friendly rivalry among the great cities as to which shall lead the way.

We regret that the Brooklyn School Board has availed itself of its legal privileges and elected three new associate superintendents for that borough. A year ago Superintendents Maxwell, Ward, and Walsh not only supervised the Brooklyn schools well but also cared for the licensing of teachers; this last duty does not devolve upon the borough superintendents. Now Superintendent Ward has eight associates at good salaries. Superintendent Jasper of Manhattan and Bronx boroughs has sixteen associates, who spend most of their time in clerical and committee work. Both in Manhattan and the Bronx and in Brooklyn the schools are overweighted with high salaried officers at the top. There would be better and more effective supervision if the number of associate superintendents were reduced one-half and the principals made more use of.

The organization in New York of the Cuban Educational Association is a long step toward helping to bring about a stable form of government in Cuba and toward developing

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the material resources of the country. The association is organized to accept and to administer the offers made by more than two hundred American colleges and scientific schools, in response to General Wheeler's suggestion, to give at least two free scholarships to Cuban students qualified to pass the admission examinations. The directors of the association are General Joseph Wheeler; Alexander E. Orr, president of the New York Chamber of Commerce; Professor Butler of Columbia University; Dr. Albert Shaw, editor of the *Review of Reviews;* President W. H. Baldwin, jr., of the Long Island railroad; and Gilbert K. Harroun, treasurer of Union College.

Cuba needs railroads, docks, bridges, sanitation, road-building, improved agriculture, manufactures. The American scientific and agricultural schools afford splendid training for men who look forward to any of these occupations. Applications from Cubans are pouring in. The applicants will be carefully examined by the officers of the Cuban Educational Association and allotted to those institutions that can equip them best for their chosen careers.

The first three appointments to the School Board of the boroughs of Manhattan and the Bronx made by Mayor Van Wyck were of a character to inspire confidence that even Tammany Hall, no matter what it must say at election times, would not consent to have the schools drift back to the mire of sloth, dull routine, and politics from which the administration of Mayor Strong dragged them. But the fourth appointment, that of the Hon. Thaddeus Moriarty in place of Hugh Kelly, resigned, shatters any such confidence at once. Mr. Moriarty was one of the most preposterous members of the preposterous group removed from the School Board by Mayor Strong on the advice and recommendation of the late Robert Maclay, then president. Mr. Moriarty will not only be on the wrong side of every educational question that comes up, but he has a sure instinct for discovering which the wrong side is.

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